Itliminn I

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Fost Office as a Newspaper, and for Transmission Abroad.]

o. 2227.—Vol. XLVIII.

LONDON, SATURDAY, APRIL 27, 1878.

R. JAMES H. CROFTS, STOCK AND SHARE BROKER, No. 1, FINCH LANE, CORNHILL, LONDON, E.C. ESTABLISHED 1842.

MINESS transacted in all descriptions of MINING Stocks and Shares (British genessitamanean arton and provided the Royal and Colonial), Railways, collasoos, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water,

NESS negociated in Stocks and Shares not having a general market

. UNESS in Colliery and Iron Shares, and in the principal Wagon and ISBNESS IN COMPANIES OF the NOETH OF ENGLAND AND SCOTLAND. FINESS IN All the principal COTTON SPINNING Shares.

INTEREST IN all the principal COTTON SPINNING Shares.

I. J. H. Crofts, having now established Corresponding Agencies in all Criter Towns of the United Kingdom, is prepared to deal in the various all Stocks and Shares at close market prices.

Accounts Opened for the Fortnightly Settlement.

Daily Price List, issued at 5 P.M., giving latest Quotations up to close of the Also, on the 1st of every month a List of all Securities ourrently deal on the Mining and Stock Exchanges, with latest prices, current dividends finterest yielded at market price, &c., and every Friday a general List cong closing prices of the week.

MINES INSPECTED.

ENERS. CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

	he following, or part:-	20 D 11
berdaunant, 8s.	25 Hultafall, £41/2.	50 Rookhope, 19s. 3d.
odidris.	50 I. X. L., 2s. 6d.	20 Richmond, £91/2.
ardiff and Swansea.	50 Javali, 6s.	30 Roman Grav., £814.
hapel House, £3%.	20 Leadhills, £3 17s. 6d.	20 St. Harmon,
hontales, 12s. 6d.	25 Llanrwst, £2¼.	50 St. Bride's Slate, 37s 6
ombmartin, 2s. 9d.	30 Llan Gan, offer wtd.	25 Tankerville, £4 3s 9d.
erwent.	25 N. Quebrada, 32s 6d.	5 Van, £201/.
evon Con., £25%.	20 N. Zea. Kapan., 11s 3d	20 Van Consols, 10s.
ast Van, £51/2.	50 North Laxey, 3s.	20 W. Tankerville, 12s.
xchequer, 2s. 6d.	50 Pandora.	40 ditto Preference, 24s.
lagstaff, 13s.	50 Penstruthal, 4s. 6d.	20 W. Ohiverton, £12%.
lyn, 11s.	50 Pestarena, 5s.	25 W. Wve Valley, £3 1 3
Henroy, 17s.	30 Parys Moun., 9s, 6d.	15 Wye Valley, £2.
Laxey, 18% x. div.	25 Port Phillip, 10s.	10 Wh. Peevor, £61/4 (xd)
SHARES SOLD FOR FO	DRWARD DELIVERY (ONE, T	WO, OR THREE MONTHS)

HE D'ERESBY MOUNTAIN DISTRICT.
SPECIAL BUSINESS in—
D'ELESBY MOUNTAIN.
D'ELESBY CONSOLS.

BHARES ON SALE at the LOWEST NET PRICES.

JAMES H. CROFTS, 1, FINCH LANE, LONDON. OREIGN BONDS — ARGENTINE — EGYPTIAN—RUSSIAN, TURKISH, SPANISH, PERU. &c.
ECIAL BUSINESS in the above, and Fortnighty Accounts opened on re of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

AILWAYS—HOME AND FOREIGN.—

D SPECIAL BUSINESS in the above, and Fortnightly Accounts opened of the anal cover.

JAMES H OROFTS, 1, FINCH LANE, LONDON. ISCELLANEOUS AND TRAMWAY SHARES.

MISCELLANEOUS.	CHEMICAL.	TRAMWAYS.
hambra Palace.	Lawes.	Argentine.
ore-street Warehouse.	Langdale.	Bristol.
alcomb Sack.	Newcastle.	Edinburgh.
ceitive Assurance,		Glasgow.
And other Shares.	TELEGRAPHS.	London.
AQUARIUM.	Direct.	North Metropolitan.
righton.	Globe.	Tramways Union.
1 1999		

yal (Westminster). Telegraph Construction
which will be a department of the wind and Panama.
BUSINESS TRANSACTED in all MISSELLANEOUS SHARES (of whatever description) having London or Country Market Values. JAMES H. CHOFTS, 1, FINCH LANE, LONDON.
Bankers: City Bank, London; South Cornwall Bank, St. Austell.
ESTABLISHED 1842.

TR. W. H. BUMPUS, STOCK AND SHARE BROKER, MINING SHARE DEALER,

44, THREADNEEDLE STREET, LONDON, E.C. ESTABLISHED 1867.

siness transacted in MINING and COLLIERY Shares of every description begins and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Miscellaneous Shares, and all Securities dealt in on the London Stock Exchange, for INVESTMENT OR SPECULATION.

Purchases and Sales negociated in Unmarketable Stocks and Shares.

Speculative Accounts opened for the Fortnightly Settlement.

References given and required when necessary.

A Stock and Share List forwarded free on application.

BUMPUS has SPECIAL BUSINESS in the undermentioned:—

sheton.

28 Flagstaff, 14s.
10 Fateley Bridge, £2½.
100 Glenroy, 16s.
100 Gorsedd & Mer., £436
100 Gorsedd & Mer., £436
100 Gorsedd & Mer., £436
100 Fort Dillillp, 11s.
100 Farys Mount., 9s. 9d.
115 Gorna Grav., £8%.
120 Javali.
120 Javali.
120 Javali.
120 Gorsedd & Mer., £436
15 Roman Grav., £8%.
15 Rockhope, 19s. 6d.
10 Bichmond, £9 6s. 3d.

Birdseye, 21s, 6d. Cambrian,

Chontales, 11s. 6d.	40 Kapanga, 9s. 6d.	10 Richmond, £9 6s, 3d.
D'Eresby Consols.	25 Llaprwst.	20 South Frances.
Don Pedro, 19a	20 Last Chance, 16s,	5 80. Condurrow. £1134.
Devon Cons., £274.	15 Leadhills, £3 19s.	10 Tankerville, £41/4.
Derwent.	10 Minera.	40 Tyn-y-fron.
East Van, £5 6s. 3d.	50 Marke Valley, 7s.	5 Van. £20%.
East Caradon, 15g 64	40 New Quebrada, 31s. 6d	15 Wh. Grenville, £334.
EDerhardt, £6 1a 9.4	70 North Laxey.	25 W. Pateley Bridge,
Frontino 30a	SO Demotorable 1 Fr 03	30 W. Tankerville, 14s.
FFERS WANTED for	the following.	oo w. lankervine, 180.
	4 Isle of Man (£25 shrs.)	10 Bridgefield & Victoria
Talybont.	20 North Fleet Chalk	Balt.
Thornhill Reef.	Quarry.	40 Llay Hall Colliery.
EVONPORT AND TIPED	ON BREWERY COMPANY	To Buy Hall Collery.
* BLUE TENT HITE	ares on advantageous terms	to cash purchasers.
be bought When	PAFALL, and WHEAL G	KEN VILLE BRAYES Should
ich higher before long	all improving in value, and	will, in all probability, be

BEEGIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Offices: 44, Threadneedle Street, London, E.C. DANKERS—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

R. THOMAS THOMPSON, JUN., STOCK BROKER, 1, PALMERSTON BULLDINGS, BIBHOPSGATE STREET, LONDON, E.C. LONDON, E.C. Eurilies.

Eurities. It. Thompson affords reliable information to investors, and can give, when de-sid, a list of first-class. Stocks. and Shares, yielding. 4 to 10 per cent. dividends capresent prices.— Mr. Thompson's weekly Circular may be had on application.

RRDINAND R KIRK, STOCKBROKER,

5. BIRCHIN LANE, E.C.

Bankers: London and Westminster, and City Bank.

DISOL, Minera, Eberhardt, D'Eresby Mountain, and D'Eresby Consols.

COLLERIES. Eberhardt, D'Eresby Mountain, and D'Eresby Consols.

and Miscra. Eberhardt, D'Eresby Mountain, and D'Eresby Consols.

and Miscra. Eberhardt, D'Eresby Mountain, and D'Eresby Consols.

AMISCELIAN EOUS.—General Credit, Royal Aquarium, Xarmouth Aquarium FOREIGN BONDS.—Emprisan Bay Chapter Consoling Miscrafton, Alltami, Miscrafton, Alltami, Anglet Mountain, Bolivian Preference, ditto Unified, Columbian, Bolivian uritai 1811, ditto 1885. A large business for fortnightly settlements is being one in several of these.

MESSES. PETER WATSON AND CO., 54, OLD BROAD STREET, LONDON, E.C. BUSINESS in STOCKS and SHARES. RAILWAYS, BANKS, DIVIDEND LEAD MINES, &c.

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AN INVALUABLE PUBLICATION.

Edited by— ALFRED E. COOKE, 76, OLD BROAD STREET, LONDON.

MPORTANT INFORMATION in the "INVESTORS' GAZETTE" of PERSONAL INSPECTION of D'ERESBY MOUNTAIN MINE, PANDORA, and others in the district. ALFRED E. COOKE, 76, OLD BROAD STREET, LONDON.

ALFRED E. COOKE, 76, OLD BROAD STREET, LONDON.

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AND MINING SHARE DEALER,
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[Established 1848.]

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Chapel House, £3½.
D'Eresby Consols.
Parteley Bridge.
D'Eresby Mountain.
East Van, £5½.
Groswinion, £3½.
Groswinion, £3½.
Gensed, £4 18, 6d.
D'Eresby Mountain.
South de Gresby.
Groswinion, £3½.
Gensed, £4 18, 6d.
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South de Gresby.
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Gensed, £4 18, 6d.
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South de Gresby.
Hultafall, £4½.
Last Chance, 15s.
N. Zealand Kap., 9s. 6d
Port Phillip, 10s.
Richmond, £9½.
South Aurora, 4s. 6d.
Port Phillip, 10s.
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BANKERS: LONDON AND WESTMINSTER.

MR. T. E. W. THOMAS, SHARE BROKER, S, GREAT WINCHESTER STREET BUILDINGS, E.C.

Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:

Buyers. Sellers.

Buyers. Bellers.

Dujus. Benote.	
Aberdaunart 78 8s. 6d.	Panulcillo £ 14 £ 14
Chontales 9s 11s.	Parys Mountain 8s.6d 9s.6d.
D'Eresby Consols 10 101/4	Pateley Bridge 234 3
Devon Great Consols 21/ 23/	Penstruthal 4s 5s.
Don Pedro 9s.6d 10s.6d.	Plynlimmon 6s 8s.
Eberhardt 5¾ 6¼	Richmond 81/ 91/
East Caradon 7s.6d 12s. 6d.	Roman Gravels 81/4 81/4
East Van 436 51/2	Rookhope 17s 19s.
Exchequer Gold 28 3s.6d.	South Caradon 75 80
Flagstaff 10s 12s.	South Condurrow 11 1134
Frontino 17/3 2	South Frances 2 21/2
Glenroy 16s 18s.	Tankerville 4 414
Gorsedd and Merllyn 4 4%	Tincroft 1034 11
Grogwinion 3 31/2	Van 19 21
Great Laxey 18 19	West Chiverton 11 13
Herodsfoot 7 8	West Pateley Bridge 2 21/2
Hingston 78 9s.	West Godolphin 34 1
Last Chance	West Tankerville 10s 12s.6d
Ladywell 17s 19s.	West Tolgus 60 62
Leadhills 834 4	West Wye Valley 234 314
Marke Valley 5s 10s.	W. Grenville
Mellances Al/ Al/	Wheal Jane 1 114
Mellanear	Wheal Kitty 114 2
Now Onebrede 11/ 13/	Wro Vallet
New Quebrada	Vouke Peningula 5a 6a
Selections founded on practical mini	ng knowledge made for the use of in-
belections, founded on practical mini	ng knowledge, made for the use of in-
vestors. An experience of 20 yearsB	
Gravels, Leadhills, Gorsedd and Merllyn	, Dodicins, and other Lead Mines.

Hultafall seem still worth buying. MESSRS. ENDEAN AND CO., 85, GRACECHURCH STREET, LONDON, E.O., STOCK AND SHARE DEALERS. Established in 1861. Bankers: Barclay, Bevan, and Co., and London and Westmiuster Bank, Lothbury.

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Liankwst and Bodidris.—Dealers and others having business in the shares of hese companies will find a ready market on application to Messrs. Exdean

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25 Birdseye Creek, 19s 3d.
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40 Cambrian, £3. 20 Glearoy, 17s.
10 Chapel House, £3 8s 9
20 Devon Con., £2 11s 3
20 D'Eresby Con., £1 1s 3
20 D'Eresby Con., £2 1s 3
20 D'Eresby Con., £2 1s 3
20 D'Eresby Con., £2 1s 3
20 Estat Van, £5 6s. 3d.
15 Eberhardt, £6 1s. 3d.
25 Frontino, £1 1rs. 6d.
26 Grad Laxey, £18 10s.
26 Grad Laxey, £18 10s.
27 Septially Recommended for an early rise in price:—Temple, Gorsedd and Merllyn, Bodidris, Tyn.y-Fron, and Hultafall.

NET I L. L. J. A. M. G. A. B. B. O. T. T.

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LONDON, E.O.

JOSEPH JOHN PYNE, AND STREET, LONDON, E.C.

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MINING ENGINEERS AND INSPECTORS.
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STOCK BROKERS, AND DEALERS IN BANK, TRAMWAY,
MINING, AND MISCELLANEOUS SHARES,
Transact business in Stock Exchange Securities and Mining Shares of every description, either for immediate cash or the usual bl-monthly settlements, and also afford advice personally or by letter to execute its and profitable investment, their experience of the markets, extending over a period of more than 17 years together with special facilities for acquiring information, enabling them to ac beneficially for clients.

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20 HULTAFALL N.B.—Some of the above will be sold on specially favourable terms to cash purchasers.

GROGWINION LEAD MINE (LIMITED).

ESSRS. H. HALFORD AND CO., STOCK AND SHARE BROKERS, of EXCHANGE CHAMBERS, CHANGE ALLEY, LOMBARD STREET, strongly recommend the above mine as one of the best and safest mining investments. Dividends are paid half-yearly. The mine has lately very much improved in the deepest workings, and the sales for the present month are 150 tons of lead.

WYE VALLEY, WEST WYE VALLEY, RED ROCK, AND SOUTH CWMYSTWITH LEAD MINES.

These mines have all recently improved very much, and large sales of lead are being made. Bhares in all of them should be secured at once.

OARON LEAD MINE (LIMITED).

Subsorbed Capital 216,000 (all subscribed in a few days).

This company is likely to prove one of the greatest successes of modern times. The mine is now in full work, good Reserves of Lead laid open, and sales wil I commence as soon as the new dressing machinery is completed. The shares are, we consider, likely to greatly increase in value in a very short time.

POR SALE, the WHOLE OF PART: —
200 CAMBRIAN, 4 D'ERESBY MOUNTAIN, 100 HULTAFALL, 10 VAN,
20 EAST VAN, 100 PARYS MOUNTAIN, 59 BLAEN CAELAN, 20 GROGWINION, 20 WYE VALLEY, 100 LLANRWST.
Address, H. WILKINS, 3, Heybourne Villas, Tottenham, N.E.

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FACTS AND FIGURES.—A Survey and Comparison of all Investments, and showing the great security, profit, and permanence of Lead Mines over those of Tin and Copper; with full particulars of a Lead Mine now yielding a good profit, and certain to rise five or six times its present price.

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CLAUSTHAL MINING SCHOOL NOTES-No. LXX. BY J. CLARK JEFFERSON, A.R.S.M., WH. SC., Certificated Mining Engineer

> (Formerly Student at the Royal Bergakademie, Clausthal). [The Author reserves the fight of reproduction.]

SECTION V.

A stempel which has been properly fixed in position should rest with the whole surface of the ends bearing against the faces of the Buhnloch and Anfall, and have been driven in so firm and rigid that when the last blows are struck they should cause a sharp clear tone. If the blows fall with a dull sound it is a sign that a portion of the fibres of the stempel are under but a slight strain. According to many persons it is not necessary or desirable that, on being first fixed in position by the prince asymptor, the Anfall and of the stempel. many persons it is not necessary or desirable that, on being first fixed in position by the mine carpenter, the Anfall end of the stempel should fit everywhere close against the surface of the Anfall or Eintrag, but should gape slightly at the upper end, which is first closed by the weighting of the roof or hanging wall. Whether any real advantage is gained thereby may, perhaps, be doubted. In no case, however, should the lower end of the Anfall end of the stempel gape, since the weighting of the roof or hanging wall would throw an excessive strain on the upper side of the stempel, which if the axis of the stempel deviated much from the perpendicular between the two sides of the lode would, in all probability, cause the upper portion of the stempel to split off; and it is probably to avoid this splitting off of the upper side of the stempel that it is recommended, as above that the upper side of the stempel shall gape slightly as above, that the upper side of the stempel shall gape slightly when first fixed in position, the weighting and the lowering of the roof carrying the Anfall end of the stempel with it till the end everywhere fits tight, and the strain is uniformly distributed over ends of the stempel.

As a rule there will not be any great difference in the size of the As a rule there will not be any great difference in the size of the ends of the stempel, and we have previously pointed out that in the case where the end of the stempel has to be cut to form a joint the thicker end of the stempel is placed uppermost. The most natural position appears to be in the case of stratified deposits to place the thicker end on the ground; where, however, a notch has to be cut for its insertion, as in the case of forming the Buhnloch, in the lying wall of the lode the thinner end is placed in the notch, which has required less dressing, and has heades the advantage that the

lying wall of the lode the thinner end is placed in the notch, which thus requires less dressing, and has besides the advantage that the roof or hanging wall is supported over a somewhat larger area.

In describing the fixing of a stempal, or prop, we have supposed the stempel to be inserted in the lode and the prop in the seam—in the workings. These, however, are essentially examples of simple timbering in working places; when the stempel—or cap piece, as it would be more properly called—has to be inserted against the roof of a drift the above method of preparing the Anfall and driving down the stempel is inapplicable, since in this case the stempel can only be inserted from the side or beneath. Neither of these cases, however, are analogous to the case of an ordinary stempel fixed in a lode, in which the weight of the hanging wall only tends to wedge the stempel tighter in its place. In the latter case it is rather the roof than the sides which it is intended to support; the stempel will in this case rather take the place of a beam than that of a struc. When the stempel is inserted from the side the following is the mode of proceeding, as described by Ponson. At one side of the When the stempel is inserted from the side the following is the mode of proceeding, as described by Ponson. At one side of the drift, close to the roof, a notch is cut slightly larger than the end of the stempel intended for insertion, so as to allow of the necessary play for inserting the stempel. At the opposite side of the level a motch is cut, in a similar manner as in forming the Aufall in the hanging wall of a lode, only in this case the arc (to which one side of the notch must be cut, so as to allow this end of the stempel to reason the notch by is described in a horizontal plans close to the pass into the notch) is described in a horizontal plane close to the roof of the level. Before this second end of the stempel is inserted a chock wedge is placed against the face of the notch, and the a chock wedge is placed against the face of the notch, and the stempel then driven close up at this end till in position, when it should be at right angles to the two sides of the drift, and as a sign that it is wedged sufficiently tight the blows should fall with a sharp clear tone. In order, however, that the vertical strain shall be distributed uniformly over the whole length of the stempel or cap wooden wedges are driven between the top of the cap and the roof. When it is necessary to remove one of these stempels, and replace it by another, it may often happen that there is not sufficient room to introduce it sideways, though one end may still be passed into the Buhnloch. The end of the stempel must then be introduced from beneath. In this case it will be necessary to dress off the lower projecting ledge of the notch, and to form a flat inclined surface, against and between which and the end of the stempel a wedge can be driven. Such a wedge is usually designated in off the lower projecting ledge of the notch, and to form a flat inclined surface, against and between which and the end of the stempel a wedge can be driven. Such a wedge is usually designated in this country a lid (German, Fusspfahl, or Anpfahl). It may happen that on account of the loose or broken character of both the hanging and lying wall that it is impossible to insert either Buhnloch or Anfall, and a lid must be inserted at both ends of the stempel. In this case the lids must be of considerable dimensions, at least length, since in this case their real purpose is to offer a larger surface for taking the pressure from the sides of the lode (or roof and floor of stratified deposits) than is offered by the ends of the stempel. The Fusspfahl, which is laid on the floor or lying wall of a lode, having to serve the same purpose as the Buhnloch, is generally notched to receive the foot of the stempel. Where the Fusspfahle are of considerable length they are often made of half round wood, with the flat end placed next to the walls of the lode. To correspond with these the Anfall end of the stempel is usually hollowed out to fit the curve of the Fusspfahl, or, as it is more properly called when placed against the hanging wall, the Anpfahl. The Buhnloch end of the stempel is often hollowed out in the same manner, when the Fusspfahl receives no notch to correspond to the Buhnloch. A stempel thus hollowed at either or both ends is said to ride on the Anpfahl. This hollowing out of the ends of the stempel entails, however, two great disadvantages; first, in the case of very heavy pressure, the round portions of the Pfahle act as wedges, and cause the stempel to split in the direction of its length; and, secondly, the stempel is liable, if it deviates much from the perpendicular to the Anpfahl in the case of great pressures, to slide along the Anpfahl. To remedy the first defect it is advisable to dispense entirely with the hollowing of the ends of the stempel, and to cut the Fusspfahl and the Anpfahl to correspond as axis of the stempel, the end of which then consists of two fices, one at right angles to the axis and the other on the under side inclined at about 60° to the axis (about 30° to the other larger cross The Fusspfahl, whether rectangular or circular in section, is cut to correspond. The object of making this second inclined cut on the lower part of the end of the stempel is to avoid the liability of splitting the lower edge of the notch off in the case of a great pressure on top of the stempel. The Anpfahl end of the stempel is cut in exactly the same manner as before described—inclined to the axis of the stempel. The Anpfahl itself is cut or hollowed out to an early of a circle with the middle of the notch in the Fussyfahlas. arc of a circle, with the middle of the notch in the Fusspfahl as centre and the length of the stempel as radius. To obviate the second disadvantage—the sliding of the Aufall end of the stempel second disadvantage—the sliding of the Adial end of the stempel upwards along the Anpfahl—a groove is cut in the Anpfahl just above the end of the stempel, in which a key about 3 in. long is inserted. A strong wooden peg is often used for the same purpose. Sickel proposes notching or grooving the Anpfahl, so that the stempel end may be introduced sideways into this notch or groove. When the stempel has to be introduced into its position from below (driven upwards), and where the sides of the drift are sufficiently from the lid is formed slightly tangring, so as a to constitute

ciently firm, the lid is formed slightly tapering, so as to constitute a wedge. The edges are often beveiled off, to enable it the more

readily to be driven up tight. the thicker end downwards. The lid is placed in position with After the side has been dressed to the thicker end downwards. After the side has been dressed to receive it, by means of the measuring lath, the length of the stempel is accurately taken. After the stempel has been cut one end is inserted in the notch at the opposite side of the drift, and the stempel then reject into a horizontal position of the drift, and the stempel then raised into a horizontal position close against the roof; the wedge is inserted tight with the hand, which will be generally sufficient to hold up the stempel till the wedge can be driven home by means of the sledge hammer. It may be necessary to insert a small piece of wood between the stempel and the roof, to prevent the latter being driven up close to the roof before the and of the stempel is entirely covered by the lid. When the lid end of the stempel is entirely covered by the lid. When the lid overlaps the end of the stempel on all sides the small piece of wood between the stempel and the roof is removed, and both are driven up as tight as possible. In the case of considerable vertical pres advisable to alternate the Buhnloch on one side and we have hitherto spoken of the lid as intended only to secure a

firm footing for one or both ends of the stempel: where, however, the sides require supporting over their whole height the lids are prolonged downwards, and notched into the floor, thus passing into the legs of a kind of door-set, and forming one example of comcompound timbering; the lid being then called a stringing plank.

The use of lids is, however, most usual in stratified disposits,

where they are inserted between the props and the roof. They then are often cut slightly tapering, to form a wedge, which allows of a prop being driven tight up more readily than if both faces of the lid were parallel. When the roof is bad (liable to break off in short pieces, like slabs) it is necessary that the lid should cover a considerable length of the roof, and for this purpose an old sleeper is often used in the working places though it is best to have proper. considerable length of the root, and for this purpose an old steeper is often used in the working places, though it is best to have proper sized cap-pieces where their use is frequent; such timbering bears the name "Unterzug." If supported solely in the centre with a single prop they are liable to be bent and broken, though this is the general practice, and it is much more rarely that they are supported by two props placed near the ends.

The great disadvantage in the use of lids lies in the fact that they become flattened and split under considerable processor which has

flattened and split under considerable pressure, which overcome the lateral cohesion of the fibres of the wo only to overcome the this is soon destroyed, and the round fibres become flattened, which is shown by the impress of the round end of the prop when the latter are borrowed. At the same time that the tubes collapse the lateral cohesion of the fibres is destroyed, and the lid splits. The lids will cohesion of the fibres is destroyed, and the lid splits. The lids will in some cases be reduced in consequence to two-thirds their thickness, which thus reduces the effective length of the prop and lid by one-third the thickness of the lid. In many coal mines this will not seriously affect the safety of the roof, which in consequence of its elasticity will bend to this amount without becoming cracked. In most metalliferous mines the hardness of the strata would not allow it to bend to such an extent and where the chieft is to sup-In most metalliferous mines the hardness of the strata would not allow it to bend to such an extent, and where the 'object is to support a large portion of the side, which is partly loosened by cracks, the shortening of the length of the stempel by the above amount might give the partial cracks sufficient space to allow the weight to enlarge and extend the cracks so much as to completely loosen the mass, and which the props with the above effective (shortened) length would be incapable of supporting. Hence though the weight length would be incapable of supporting. Hence though the weigh-ing and lowering of the roof may have no disadvantageous effects, but often the contrary in coal mines, yet the loosening and weight-ing of the sides in this manner in metalliferous mines may be very dangerous, and hence it is always advisable in the latter case (where no sible) to fix the stemple in position without the insertion of lids between the ends of the stemple and the sides of the lode.

between the ends of the stemple and the sides of the lode. In the case of both metalliferous and stratified deposits it is most usual to place the stempels and props in regular rows; the use of single props, however, is much more frequent in coal mines to support isolated portions of the roof or side, which threaten to come loose and fall down. Such single props are generally called stragglers. The place and position in which they will be best fixed are carefully ascertained by examining the visible rifts or clefts in the roof or side, as the case may be, and also by knocking with the head or shaft of the pick or hammer. This latter will often be the only way in which dangerous portions of the roof can be ascertained. only way in which dangerous portions of the root can be ascertained, a sharp clear sound being generally taken as a proof that the ground is solid and no cleft exists, whilst a dull hollow sound is assumed to prove the contrary. When the loosened piece is of considerable size and thickness it will give a sharp clear sound, so that this latter cannot always be taken as a definite proof of the non-existence of a crack or cleft; in such a case only the edges near the cracks will give a hollow sound, and the extent and dimensions of the cleft such the initial contraction of the cleft cannot be indeed for a the wighter of actor which are discontinuous. must be judged from the visible or determinable portions of the crack near the face of the rock, and a local experience as to the di-

rection in which such clefts run.

In the case of coal mines and salt mines, where the pressure is excessive or the height considerable, it is usual to replace the rows of timbering by so-called chest or box timbering. This is usually formed of timber square in section (or if round with two flat faces sawn on opposite sides) laid crosswise over each other—i.e., two blocks of wood about 6 in. square and 24 to 30 in. in length are laid on the ground parallel to sech other—and about 14 to 20 in spart on the ground parallel to each other, and about 14 to 20 in apart, centre to centre; on these two a second pair are laid at right angles, and likewise from 14 to 20 in apart, centre to centre. In this manner the roof of the Barnsley seam of coal is generally supported along the working faces. In the Silkstone seam of the Victoria Col-liery, Stanley, similar chock timbering is placed as an additional support at intervals between the ordinary rows of props. When the pressure is considerable it is but seldom that the entire pile can be robbed without first hacking one of the foot chocks in pieces. At the Monkwearmouth Collieries partly in order to avoid the loss of timber as above, and partly in order that the weight of the roof may be taken gradually, the foot chocks are laid on small coal, which thus renders the robbing of the timber much less difficult. The pillars are placed from 18 to 24 ft. apart, and in two rows, the pillars of one row being opposite the centre of the spaces between the pillars of the other row; the chocks are from 8 to 10 ft. square. Sometimes the checks of which these pillars are placed as a pillar are paid close. Sometimes the chocks of which these pillars are built are laid close to each other, as at the Dundyvan Iron Mines, near Gartsherrie, the single chocks being in some cases as much as 6 ft. long. In many cases to avoid the waste of material instead of laying the chocks cases to avoid the waste of material instead of laying the chocks close to each other they are placed at some distance apart, and the space between filled with attle packing. As there is considerable liability in the case of heavy pressure of the packing forcing out the timbers, especially where the latter are round uncut timbers, it is advisable to notch the timbers slightly, and let them into one another, as is the case of the salt mines of Wieliczka. This kind of timbering is in frequent use in the various salt mines of Austria, and, as is evident, is principally suited for beds which lie nearly horizontal. It will seldom happen that the pillars fill exactly the space between the roof and floor, and there will generally be a few space between the roof and floor, and there will generally be a few inches beween the roof and the top of the pillars, which must be filled by planking and the like. The advantage of this kind of timbering is that the roof is not supported from several points but over a considerable area.

STEEL CORVE WHEELS AND AXLES.—At the recent meeting of the Midland Institute of Mining, Civil, and Mechanical Engineers Mr. MARCUS FENTON read a paper on the Patent Steel Corve Wheels and Axles manufactured by the Sheffield firm of which he was a member. He expressed the opinion that the more extended use of steel may lead to the more extended use of cast and wrought-iron in other directions. It was thought that the introduction of railways into the country would render horses of comparatively little ways into the country would render horses of comparatively little use, whereas we all know how enormously the use of horses was developed by the introduction of the railway system. No doubt the period of transition is attended with some inconvenience, but in this age of progress no man can afford to stand still, because if the thing is right in theory and practice it is bound to go on. He stated that his firm had succeeded after almost numberless experiments in prohis firm had succeeded after nimost numberiess experiments in producing a kind of steel for wheels which they believe cannot be surpassed for toughness, and which in any case offers the utmost amount of resistance that can be desired—being practically indestructible. It is a widely different thing now when trains of corves are run by

steam-power at considerable speed to the old method of corl lo motion by boys. Enough has been said to indicate that the qual of material used is of the utmost importance, and that wastem of material used is of the utmost importance, and that waste on one hand, and true economy on the other, will result according the quality of material used. The wheel can be detached from secured to the axle in a few minutes. The next advantage is a secured to the axle in a few minutes. solidity attained, the wheel and axle practically becoming one pier. The durability results from the toughness of the material and is solidity secured in the fitting.

PATENT SMOKELESS FURNACES.

For very many years past the greatest bugbear in all our magnetization facturing towns has been the Smoke Nuisance. Inspectors have appointed to watch chimneys to see how long they emit dense or other smoke, and a great deal of our magistrates' time we occupied in hearing and adjudicating upon the cases that we brought before them. Many inventions were brought out from the time to consume the smoke before it reached the flue, but so may be said to have really succeeded, and in all places where the are chimneys in connection with manufactories and works at a present time volumes of smoke are still emitted and scattered present time volumes of smoke are still emitted and scattered whatever direction the wind may chance to be. But there certainly no necessity whatever why this should now be the care where the say this after examining and witnessing the working of Barber patent smokeless furnace a few days ago. We saw the funcact two large boilers fed with small coal, and there was not the slights two large contents for with small cost, and the chimney. The furnes emission of smoke from the top of the chimney. The furnes simple of construction, and it has been found that small coal is me suitable for burning, and whilst there is less consumption than suitable for ourning, and whilst there is less consumption that the ordinary furnace there is a larger amount of steam obtain without variation. In the front of the furnace there are three shelf and three sets of sloping grate bars. The coal is thrown frequent on to the shelves, and it is kept in front of the burning fuel, so the said in passing into the first first passes through the on to the shelves, and it is kept in front of the burning fuel, so the air in passing into the fire first passes through the fresh of when the coal is thrown upon the shelves it is pushed forward as to carry before it the coked fuel of the previous firing. The upplevel of the fresh fuel is kept in line with the front edge of a grate bars above, so that the points of the bars are kept cool. In fuel is pushed in from the lower shelf first, then the one above, so on but it is not put in so as to crowd any of it above the hard so on, but it is not put in so as to crowd any of it above the burning fuel. The sloping bars are kept covered with the coal, so that fresh air cannot rushed into the furnace. The ashes and the fresh air cannot rushed into the lurinace. The asnes and clinks are well managed, and they pass along the top part of the fire in the back part of the grate, from which they are removed by dropping the front of the grate and taking them out. This is done quick so as not to allow too much cold air to rush into the fire box along the part of the grate and taking them. the front of the grant of the grant of the front of the front of the grant of the g tem, consequently repairs are not necessarily so frequent. The nace, owing to its simple construction, can be readily adapted other descriptions of boilers, either stationary or local comparatively small cost, and can be easily taken to piess' repairs or renovation. Added to this the cost is not by any me heavy and is soon recouped by the saving effected in the cost tion of fuel. The one we saw in operation was at the works Messrs. Pigott and Farrar, Old Foundry, Barnsley.

UTILISATION OF MIXED ORES-No. IV. TREATING AND SEPARATING CERTAIN COMPLEX METALLIC COMPOUNDS.

Referring to the particular ores and compounds to which hisp desses are applicable, Mr. Maxwell-Lyte mentions that Utah contained applicable, Mr. Maxwell-Lyte mentions that Utah contained through large deposits of argentiferous lead, finely disseminated through kind of friable siliceous rock.

France, Spain, Portugal, Austria, W. Namer, Near visib Apposite of highly argentiferous lead in Norway have rich deposits of highly argentiferous lead in bar matrix, and very superior qualities of rich argentiferous blusto matrix, and very superior qualities of rich argentiferous bluestor. These ores are untreatable by the amalgamation, and refract under treatment by fusion, but are particularly fitted for treatment by the process of sulphatation. The precision of these processes of great that under careful management industrial results are ofto the superior to those of a laboratory assay. In some district a large class of ores containing antimony, lead, and silver occur, at the latter metal is generally in these cases very abundant. If are ore be smalted an alloy of the three metals is obtained, and if antimony be over one-third of the weight of the lead the alloy brittle, and can be pulverised, but by no known means can antimony be obtained from this alloy in an available form; at though it can be partially withdrawn from the lead by alloying with iron, forming an antimonide of that metal, it takes nearly not all the silver with it. Now, if the mixed metals be reducted together by fusion and the alloy be pulverised, sulphated, and treat not all the silver with it. Now, if the mixed metals be redused together by fusion and the alloy be pulverised, sulphated, and treat with boiling neutral brine it yields up the whole of its lead at silver. Teroxide of antimony remaining behind insoluble, may separated by subsidence from the hot solution or by the filter-presend may be fused into metallic antimony free from lead, while the lead and silver are precipitated by metallic zinc from the brasolution, and treated as above described. There is always a loss treating this class of ores, not, however, nearly so great as would be involved in any other known process of separation, the loss lying principally with the antimony, which volatilizes: but it should principally with the antimony, which volatilizes; but it shows a rever exceed 8 per cent. of the lead, 12 to 15 per cent. of the amony, and 7 per cent. of the silver. Such losses must, however, allowed for in purchasing these ores.

allowed for in purchasing these ores.

The brine process is, moreover, specially applicable for the recovery of lead from lead fume, lead ashes, and sulphate of lead produced in certain branches of industry; and it is also to be observed that although these processes are not directly applicable for the reaction of gold from ores, still all of this metal which the ores may possibly contain remains with the gangue after the acid or bin treatment, and this residue is peculiarly well suited for the econical extraction of the gold by either amalgamation or by one the chlorine processes. The capital requisite for establishing works for treating 20 tons of ore per day is estimated at 24,000k, which 14,000k, would be required for building plant; 6000 for stoin hand, ore, zinc, and so on; and 4000k for floating capital. We regard to the prices of the ores, it is impossible to attribute any reprice to that which at present sells for next to nothing, or is of literally thrown away, but they are quoted as the approximation. price to that which at present sells for next to nothing, or is of literally thrown away, but they are quoted as the approximate prices that might probably be asked when the new processes generally known and largely worked. The profits though rathless than in England are still remarkably good, and are, it is believed in all respects rather underrated than the contrary. The orest more abundant in France and on other parts of the Continent in England, and, consequently the cost is somewhat lower. It this reason, which in itself, together with the fact of cheaper laboration and the profits of the contrary. newhat compensate the rather higher prices of t fuel, and so on, it has appeared to Mr. Maxwell-Lyte that it we be most specially advantageous to set up works in or near Paris a moderate scale, where the processes could be demonstrated in in a moderate scale, where the processes could be demonstrated in to selling royalties to the large numbers of persons who annulvisit that capital. The successful working of the processes in Esland might not of necessity be considered a proof of their feasibilities in other countries, this country being regarded as somewhat as ception by foreigners; whereas their working at Paris, where the have already been successfully proved, will be considered sufficient to warrant their being employed anywhere. For these reasonables quoted French and not English prices, desiring to establish works of demonstration there. works of demonstration there.

Some of the estimates given by Mr. Maxwell-Lyte are particular to the stimate

Some of the estimates given by Mr. Maxwell-Lyte are particular interesting, as showing what excellent profits can be made from treatment of cres which are usually difficult to deal with profitable He first refers to a Laurium ore, which would be submitted to chlorination process. Its composition is—ginc, 32.43 per centlead, 19.25; volatile matters, 15; other soluble matters, 14.65; sinsoble matters, 18.69 per cent. = 100; it also contains 598 grams of silver per ton of ore. He estimates that this ore would centle works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and that from it he would obtain the works 95.25 frs. per ton, and the works 95.25 frs. per ton 95.25 frs. per ton 95.25 frs. per ton 95.25 frs. per ton 95.25 frs. per

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HE GOLD

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Aninterestin Director of int Quartz F ne is 5 miles adland of P adland of P e bay are the tlement of nd, but elsew th deep sid iling geologica schist an lar veins an schists of tends from tions of gold Turner Min d many rich 1872 yielde aired by th w being wo the Wairau lowed by rth about 1 air trial. The Golden oth the for herto beea rtz which course of 1 50 ft., and a ice. Sever ted on the s ect got in th gr. to the di

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overed oad field or server do oal field or server do oal field or server yiels in the Apeche and Pinal Apeche and Pinal Anned on the 11-28 is at the old Ajoi is ounty, but unfort county, but unfort count The Hand-B

Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Vow GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz

ofit upon each ton treated. He puts hydrochloric acid at 16s, per n, coal at 24s. per ton, and hard spelter at 12L per ton. On the atment of an ore from Haute Loire with 71 per cent. sulphate of rytes, 25 per cent. of lead, 0-1 per cent. of silver, and much antiony by the sulphatation process he estimates a profit of 1L 18s. 7d. r ton, or 11,560L per annum, on treating 20 tons per day. Treatgan ore from Nevada by the same process—although why a Nevada me should send an ore to Paris to be treated is not very readily celligible—he shows a profit of 6L 0s. 4d. per ton, or 36,096L per num on treating 20 tons per day. Again, the treatment of an timonial lead ore is shown to yield 5L 9s. 8d. per ton profit, or 190L per annum treating 20 tons per day. In the same way the satment of flue stuff yields 27,679L per annum profit. For each of see estimates complete details are given, so that each capitalist posed to entertain the matter can judge for himself. There is cermily nothing irrational in either of the processes, so that if the mand for the ores which would be created would not send up the cetter is no reason why the project should not be successfully rried out. afit upon each ton treated. He puts hydrochloric acid at 16s. ried out.

THE GOLD REEFS OF CAPE JACKSON, NEW ZEALAND.

An interesting report has just been made to the Colonial Secretary by
Director of Geological Surveys—Dr. James Hector—on the Golden
int Quartz Reef, on the west side of Queen Charlotte Sound. The
neisomiles below Picton, at Prices Point, which forms the northern
her by Market he school of the control of t sint Quartz Reef, on the west side of Queen Charlotte Sound. The ine is 5 miles below Picton, at Prices' Point, which forms the northern adland of Powerful Bay. Under the shelter of the point within e bay are the peach groves and cultivations of the deserted Maori thement of Kaipapa, where there is a small extent of available nd, but elsewhere the country consists of narrow rocky ridges, it deep sides covered with scrub to the water edge. The presling geological formation along the west side of the Sound is its achist and clay-slate, both impregnated with quartz in irrelar veins and lamine. These metamorphic rocks are similar to eachists of the Otago gold fields, and form a narrow belt, which tends from Cape Jackson south-west to the Wairau river. Inditions of gold have been found in various parts of this area. At a Turner Mine, near Cape Jackson, a reef was formerly worked, d many rich specimens obtained; a piece collected by Dr. Hector 1872 yielded 3 ozs. 6 dwts. per ton. (This mine has recently been quired by the Ravenscliff Mining Company, of London, and is we being worked by them). On the Onamalutu Creek, a tributary the Wairau river, alluvial gold was extensively mined in 1869-70, llowed by the discovery of the Sutherland reef, from which ore orth about 1 oz. per ton was obtained, but the reef never received fair trial. air trial.

air trial.

The Golden Point reef occurs under similar geological conditions both the foregoing. The workings in the Golden Point Mine have therto been for the purpose of tracing the irregular leaders of artz which are met with. North-west appears to be the prevail-g course of mineral lodes in the district. A tunnel has been put 50 ft., and at the end a shaft has been sunk 30 ft., and from the trops agreed by the shaft put of the trips agreed by the trips tion a cross-level has been cut 17 ft. to the east and 19 ft. to the st. A thin leader is cut in the roof of the tunnel near the en-Several dishes of stuff from the leader roughly broken were ance. Several dishes of stuff from the leader roughly broken were sted on the spot, and in every case gold was obtained. One procet got in this rough way was preserved and weighed, and gave gr. to the dish, or about ½ oz. per ton. From the same place ½ lbs. of stone was taken, and yielded in the laboratory 14 ozs. 6 dwts. 5 grs. to the ton. The ground is tolerably dry considering that it is so close to the sea, and 25 ft. below tide-mark, and the makage water being only faintly brackish proves that the ground is that and favourable for deep working.

Dr. Hector considers the indications, on the whole, favourable; at that much work may be necessary before a defined reef is found

t that much work may be necessary before a defined reef is found Golden Point. At the same time the analyses prove that some at st of the quartz leaders contain a remunerative percentage of gold, ovided that their extreme irregularity does not make the mining berations too costly. Any further prospecting apart from workg the leaders should, he thinks, be by a drive north-east from a jint on the beach about 50 yards south of the mullocky reef outop, as it is most probable that all the leaders will make into a artz lode, a reef lying to the west and north of the mine, but

derlying to the eastward. correspondent in New Zealand who transmitted to us Dr the correspondent in New Zealand will transmitted to us Di-sector's report informs us that a company has been formed in Wel-legton, with a capital of 10,000k, for the purpose of acquiring and orking the Golden Point reefs, and that the shares were nearly taken up before the prospectus was issued.

THE MINES AND MINERALS OF ARIZONA-No. I.

There can be no doubt that in the not far distant future both rizona and New Mexico will be favourably known to the capitalists
this country as an attractive field for mining enterprise, and an cellent opportunity is afforded to them for acquiring much useful formation concerning these territories from the admirable volume* at issued by Mr. RICHARD J. HINTON, who has certainly utilised is cellent opportunity is afforded to them for acquiring much useful formation concerning these territories from the admirable volumes at issued by Mr. RICHARD J. HINTON, who has certainly utilised the ability which he has acquired as a journalist in collecting matelal, in addition to which he appears to have received abundant asstance from officials and others in the district. The introductory aptes apon the geographical position and route to Arizona and an historical stein admirably pave the way for the consideration of the physical and geological stein admirably pave the way for the consideration of the physical and geological stein admirably pave the way for the consideration of the physical and geological stein admirably pave the way for the consideration of the physical and geological stein admirably pave the way for the consideration of the physical and geological stein admirably pave the way for the consideration of the physical and geological stein admirably pave the way for the surface. This confirms the theory of almbold in respect to the deposits of silver in northern Mexico—that the proportion of silver in the ore would be found to increase as you advance towards the acts. This is accounted for geologically by the dip of the veins, the rich portion of silver in the ore would be found to increase as you advance towards the acts. This is accounted for geologically by the dip of the veins, the rich portion of the part of the discovery of the famous and the surface. The famous has a surface at the order the acts of the surface and ability which he has acquired as a journalist in collecting mate-

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and Seenery." By Richamb J. Hinrow. Ban Francisco: Payot, Upham, and Co.

metals magnetic iron is found in the schists of the Chiricahui mountains, near Camp Bowie, in sufficient quantities to give it some prospective value for local purposes. Iron in carbonates and oxides is also abundant in various portions of the territory; but industrial and manufacturing conditions are not yet such as to render it of special value. Platinum is found in the Black canyon of the Colorado and on the Agus Fria. There are traces of it in various localities, and of nickel in one place. Large beds of gypsum are reported on the San Pedro. Cinnabar has been found near Ehrenberg on the Mojave and Prescott road, and at at other points in the vicinity of Prescott, but has not yet been mined in paying quantities as far as known. Large salt deposits have been seen between the Dos Cabezas and Dragoon mountains. The waters of the Salinas or Salt river have a brackish taste—hence its name. This is believed to come from the deposits or beds of rook salt in the canyon through which the steam finds its way. Salt is also found in small quantities near Sunset Crossing, on the Colorado-Chiquito: and there are said to be mountains a few miles cast of the Colorado near Callville containing extensive deposits of pure, transparent, beautifully crystallised salt, unexcelled either for table or other use.

Passing from one extreme of necessity to another of luxury, blood-red garnets have been found in the Nacimiento desert, near Fort Defiance, scattered overloose sand, their surfaces indicating transportation probably from 50 miles northward, where they are found in syenite. And although a diamond swindle was based upon these facts it is none the less true that garnets have been found not only near the eastern border of Arizona but at its western border, at the same parallel on both sides of the Colorado river. When to all these requirements of necessity and luxury, continues Mr. Hinton, we add that fact which probably made Great Britain the manufacturing centre of the world, nothing more than its agricultural facilities are netals magnetic iron is found in the schists of the Chiricahul mountains, near

THE DESERT OF ATACAMA: ITS GEOLOGY AND MINERAL PRODUCTS.

Attention has already been called in the Mining Journal to the Desert of Atacama as a field for commercial enterprise, and as the Government of Chili have now issued an exhaustive pamphlet (with a copy of which we have been favoured by the Chilian Minister) descriptive of the great mineral fields of the district, it may be hoped that its development will not be longer delayed. With regard to the general aspect, it is stated that the description which has been exhaustly given—that it is an extensive plain between two chains of the general aspect, it is stated that the description which has been usually given—that it is an extensive plain between two chains of mountains—is very far from being correct. The interior of the desert does not consists wholly of level plains, but is divided into large basins by intersecting ridges, the direction of which is approximately north-east to south-west. Between the parallels 23 and 27 there are four of these basins wherein may still be seen the dry channels of the ancient rivers which once irregated these extensive regions. The northern basin embraces the whole of the space enclosed by the hills of Naguayan, Caracoles, and Atacama on the north. Its eastern boundary consists of part of the Andes range, which extends from the Volcano of Licuncaur to Liullaillaco. Its southern boundary is a range which, branching from the Varas Mountain, runs in the direction of the heights of Los Cordones and Cobre, and terminates on the coast by the hills of Jara and Jorgillo. This vast basin communicates with the Pacific Ocean through a deep gorge called the Negra in the vicinity of Antofagasta. The portion of this basin which is in Chilian territory comprises the plains of Palestina, of Aguas Biancas, and a part of the Valley of Mateo.

vast basin communicates with the Pacific Ocean through a deep gorge called the Negra in the vicinity of Antofagasta. The portion of this basin which is in Chilian territory comprises the plains of Palestina, of Aguas Biancas, and a part of the Valley of Mateo.

The second basin, that of Cachiyuyal, is bounded on the north by the Peak of Cobre and by the Varas chain, on the east by the Vaguilia range as far as Chaco, thence by the Andes as far as the voicano of Dona Inez, and on the south by a range of hills which includes those of Hornillo and Cachiyuyal. This basin opens into the port of Taltal, and contains the most extensive tracts of level ground in the desert of Chili—those of the Prophete, Cachinal, Sandon, and the valley of the Eucantada, and the plains of Cachiyuyal. The third basin is of more limited extent, and contains but few tracts of level ground; it is bounded on the north by the range last indicated, on the east by the voicano Dona Inez and the hill of Indio Muerto, and on the south by a range of hills which extends to the Cerro Negro and Carrizallio. It consists of narrow valleys, and communicates with the sea in front of the Pan de Azucar. The fourth basin comprises the dry channel of the Salado river and the undulating tracts of land which formerly discharged their waters into it. The range which branches from the Cerro del Azufre skirting the elevated plain of Tree Putus and joining the coastchain close to Las Animas, constitutes its southern limit. The surface of this basin is very undulating, with no extensive plains, but consists of a series of long and narrow valleys. Although the four ranges which form the boundaries of these basins attain very considerable altitudes, they nowhere assume in the interior of the desert the character of precipitous hills, but rather that of hills of rounded form and gentle slopes. From these jut numerous spurs, which subdivide the large basins into plains of lesser magnitude, some of which are enclosed on all sides, and have apparently been the sites of an

rocks crop up, constituting the axis of this range of mountains. Near the coast are the stratified palazozoic rocks, in the intermediate part the plutonic rocks, and in the highest part of this vast aggregation of mountains are the volcanic formations, in the midst of which rise up the extinct volcances of Azufre, Dona Inc., 80 Chaco, and Liulialilaco.

But what especially attracts attention on visiting the central region for the first time is its nakedness and uniformity, the plains and hills being covered with sand and small loose stones, which all retain their angular shape, and could not have been derived from alluvial deposits like those which cover the plains of Southern Chili. This vast amount of debris and scattered rocks has been the result of dis integration of the plutonic rocks, and from this great formation of detrius other deposits are derived, which, in sight of their importance, deserve a closer study. The deposits of nitrate of social are found dispersed in the central part of the desert from 26° 30′ to nearly 24° southern latitude. They only occur at a certain distance from the channels of the ancient rivers, and whether in the valleys or in the plains the richest portions are not met with in the centre, but on the narrow belts of the surrounding rising ground. It is under a bed of common salt that the nitrate of soda is met with in layers from 10 to 50 centimetres thick. In the other class of localities the saltpetre does not appear on the surface, which consists of a bed of earth and small stones, but there are two certain signs by which its presence underneath is indicated. The first is the existence of small natural pits, which coult at intervals over the surface. The presence of chalcedony has also been regarded as an indication of saltpetre. The trial workings at Oachinal and Aquas Blancas are so very small in extent as compared with the nitrate area that it is quite impossible to form even an approximate estimate of the possible duratity of nitrates at these points. All that can be said veins bearing these minerals being intimately connected with the limestone of that period, and the subsequenteruptive masses of trachytic and augitic porphyry. In most instances the veins are also at the contact of the two classes of rock, as in the former cases. The well-known mines of Ohimbero and Tres Puntas are examples of deposits situated in the transverse ridges. Further north are the mines of La Florida, situated in a band of limestone forming part of the range that closes the basin of Salado to the north. A bed of augitic porphyry running east and west has uplifted two series of limestone beds, and in its neighbourhood the silver veins are found. Mearer to the base of the Andes we come to the mines of Sandon, and lastly near the Chilian frontier in about 340° south latitude are the mines of La Palestina. In addition to the above numerous veins of argentiferous galena are known, but up to the present time they have scarcely received any attention on account of the difficulty of working them to a profit. It may be hoped that the development of lines of communication consequent upon the opening up of the nitrate district, will facilitate the means of exploring the other minerals of this region, so that they may in their turn be actively worked.

The Government appears disposed to do its utmost to open up the district, having had careful surveys made, with a view to improving the roads and means of communication, and a decree of June, 1877, provides for the formation of centres of population at Blanco Encalada and Taltal; the former town is to consist of 28 blocks surrounding the ground reserved for the public place, and the latter of 11 blocks. The blocks are to be divided into about \(\frac{1}{2} \) acres to these deprived of work by the May earthquake, in return for an undertaking to enclose and build upon them within six months. The harbour of Remiendos will henceforth be called the harbour of Blanco Encalada; it its found by careful observation to be in latitude 34° 22° 20° south, and longitude 70° 3

he adds that he knows, from information derived from persons well acquaints with the localities, there is a sufficient field for a large development in the direction with the localities, there is a sufficient field for a large development in the of copper and silver mining. It may be anticipated, therefore, that he desert of Atacama will be favourably known to British capitalists as enterprise.

TRAMWAYS-THEIR CONSTRUCTION AND WORKING.

Although tramways are at present tolerated both in the London suburbs and elsewhere, there is no doubt that their advantages are fully counterbalanced by their inconveniences, and the great question to be decided is whether the objectionable features connected with them can be removed. To facilitate the accomplishment of this a complete volume,* the object of which is to place before engineers, capitalists, and financiers a succinct analysis of the past this a complete volume,* the object of which is to place before engineers, capitalists, and financiers a succinct analysis of the past practice and the present achievements in tramways in the United Kingdom as works of engineering and as moneymaking concerns, has been written by Mr. D. Kinnear Clark. He remarks that unasuming and unobtrusive as they are tramways have been the subject of a wide range of experience; by failures engineers have discovered what would not do, and as practical philosophers they have by induction arrived at the conditions for efficiency. Tramways, he says, cost half as much as railways, and they earn more money by the mile; they have involved as much blundering as railways; like railways they have exhausted professional reputations, and they have cost comparatively more than railways for working expenses. The origin and progress of tramways are first referred to, chapters being given on the introduction of tramways, modern tramways in the United Kingdom, tramways, the Metropolis and the Leeds tramways and Belfast tramways, Dublin tramways, the Netropolis and the Loudon tramways and Belfast tramways, Dublin tramways, with particulars of cost of London tramways and iroways—Livesey's, Cockburn Muir's, Kincald's, Dowson's, and Schenk's. The second part of the book details the present practice of tramway onstruction in the United Kingdom, and gives detailed description and particulars of cost of the Ediaburgh street tramways, of the Dundee street tramways, Belce's system; Manchester Corporation tramways, Berker's system; Eristol, Leicester, and Salford tramways, Kincald's system; Southport and Wirral tramways, Belce's system; Manchester Corporation tramways, Barker's system; given tramways; foreign tramways; and there is also a chapter of general conclusing chapter of which consists of an admirable general analysis of the working expenditure are treated of in the third part, the concluding chapter of which consists of an admirable general analysis of the working expenditure are treated of i

* "Tramways: their Construction and Working, embracing a comprehensive history of the system, &c., with special reference to the Tramways of the United Kingdom." By D. KINNEAR CLARK, M.I.O.E. London: Crosby Lockwood and Co., Stationers' Hall-court.

The Phonograph.—A pamphlet circulated by the patentees on exporters of the phonograph in this country gives the best account we have yet seen of that remarkable instrument. The phonograph has been described by Sir William Thomson as the most interesting mechanical invention of the century, and we are inclined to think that it is even a little more wonderful than the "telephone," which it has so soon followed and eclipsed. The telephone is, at present at least, by far the more useful instrument, and is quite a godsend to the Chinese, who, for want of any alphabet, are unable to use the ordinary means of telegraphic communication. The telephone does for us—that is, it conveys speech instead of writing instantaneously to remote distances. But the phonograph does a thing which is quite new. It registers and stores up the mechanical product of sound in such a way that the original sound can be reproduced at any interval of time. The principle on which both instruments work is necessarily the same. Every sound and modification of sound is caused by a series of air waves or vibrations. These vibrations the telephone transmits and the phonograph registers and will reproduce, and this it will do so perfectly that all the three qualities, of sound—its pitch, its loudness, and its timbre, or quality—the first depending on the length of the sound waves, the second on their force, the third on their shape, are rendered with equal accuracy. In the words of the pamphlet, "with only a vibrating plate, a sheet of tin-foil, and a crank, it is possible to arrest and fix all kindsof sound, and, having preserved them as long as metals will hold their properties, to give them forth again in all their original plate, a sheet of tin-foil, and a crank, it is possible to arrest and fix all kinds of sound, and, having preserved them as long as metals will hold their properties, to give them forth again in all their original qualities." Thus a machine "as simple as a coffee-mill" will give us back the product of the living processes of thought and speech, the highest and most delicate of all human functions. All that is necessary is that we should be careful to grind our mill at the same speed in giving out the sounds as in taking them in, lest they be converted either to superhuman shrillness or to an infra human bass. Even with this precaution the reproduction is not quite perfect, as we are told that "the voice is certainly somewhat muffled and minifed (whatver that may mean) when returned from the iron tongue we are told that "the voice is certainly somewhat mulmed and minfied (whatever that may mean) when returned from the iron tongue of the phonograph." Still the result is quite near enough, and indeed a good deal too near for our liking. Nothing so much belongs to a person, is so characteristic, so much a part of his inner self, as his voice and intonation. To recall these is almost to recall the spirit which breathed in them. It is not merely uncanny; it is sacrilegious. We are told that 300 years ago the phonograph would have been set down as a disabilical instrument and the phonographs. sacrilegious. We are told that 300 years ago the phonograph would have been set down as a diabolical instrument and the phonographer dealt with accordingly. We have no desire to see Mr. Edison burnt at the stake, but we are not sure that we can say the same of his invention.

FINANCIAL REGISTER AND STOCK EXCHANGE MANUAL. sixth edition of the volume bearing this title—that for 1878—has just been issued by Mr. Etlingham Wilson, of the Royal Exchange, but certainly, so far as its Muning information is concerned, reflects but certainly, so far as its Mining information is concerned, reflects very little credit on the Editor, as the inaccuracies appear to be almost innumerable; but it will suffice to state that the defunct Burrow and Butson Company is stated to have for secretary agentleman long since dead, Mr. Tooke is de cribed as secretary of the Emma, Mr. G. H. Cardozo as secretary of the Frontino and Bolivia, the Kapunda Company is located in Great Winchester-street, the late Mr. T. W. Hall is still secretary of the Richmond, and Mr. Jehn Hitchins of the Prince of Wales, Mr. J. Richard is secretary of West Chiverion, Mr. John Watson of Wheal Grenville, and this list might be continued aimost indefinitely. The classes of securities referred to are—public funds, colonial and foreign debts, banking, finance, insurance, mining, railway, shipping, telegraph, water and gas, and other British and foreign joint stock companies.

A SOLID ACRE OF SILVER.—The Rocky Mountain Tourist says—

"One of the most remarkable mines in California Gulch is in leads 3 ft. in thickness, the ore from which yields from 240 ozs to 270 ogs.. of silver to the ton, and lies like a coal bank in a stratification of limestone, dipping about 15°. Two openings have been made at points 600 ft. apart, and sufficient ore is in sight to make millions of the 'dollars of our daddies.' The owners have gone far ecough to know that there is a full acre of the ore in the one solld body, and some conception may be formed of the amazing richness of this discovery by a brief calculation of its dimensions. A cubic foot weight 170 lbs., and as the ore lies 12 cubic feet makes ton. There are 43,550 equate feet, which with 12 cubic feet to the ton makes 10,900 tons, worth \$4.50 per ton, or the enormous value in the aggregate of \$2,700,000. The Crescent is another mine worked like a coal bed, the ore lying horizontally in the large room that has been opened, the roof being held up by heavy timbers with very stoat caps and tugging-poles. The ore breasts from 1 ft. to 3 and 4 ft., and occasionally very fine specimens of horn silver are found." mens of horn silver are found.

tugging-poles. The ore breasts from 1 ft. to 3 and 4 ft., and occasionally very fine specimens of horn sliver are found."

INDIAN GOLD FIELDS.—The recently discovered gold field in Southern India, in the district of Wynasd, the opening of which by the Elpha Mining Company was reported a few months ago, and which promises to become an important feature in the industries of our Eastern dependency, is not the only example of gold deposits of considerable value being worked by the Coregum Gold Mining Company, are among the most ancient and extensive in India. The surfierous quarts roefs are said to extent for nearly 20 miles in length, and are believed to be of extreme richness. Hyder Ali and Tippoo Said are said to lave worked the mines in this locality, and there is a tradition that as long ago as 1293 Allageen, a General in the service of the Emperior of Delhi, invaded Mysore, and brought back with him an immense quantity of gold, which is believed to have been procured in the district of the mines now being opened out. The workings are situated at an elevation of 3806, the above the sea level, and the climate is healthy. There is a station on the Madras Railway 13 miles distant, so that the transport of the necessary plant for slocking the shalts and for other operations is effected without difficulty. If the operations in Mysore and at the Alpha Mining Companys works prove successful, a new and most important addition will be made to the mineral resources of the Empire. Hitherto gold has been found in very limited quantities in India, though it course; and generally in stream gravels. It has been occasionally extracted in the North-West Himalayas, Chota Naggur, Assam, Singapore, the Godavery Valley, and some other places. In the Punjab not more than three

Meetings of Public Companies.

NEW QUEBRADA MINING COMPANY.

A meeting of shareholders, specially convened, was held at 20, Great Winchester-street, on Thursday,
Mr. W. W. Bird in the chair.

The Chairman explained that this was not a meeting of the company, but was called by himself, at the request of several influential shareholders, for the purpose of enabling them to consider the position and affairs of the New Quebrada Company in consequence of the almost impossibility of obtaining any information at all from the head office. He had letters from all parts of the kingdom expressing assent to the object in view. He had mation at all from the head office. He had letters from all parts of the kingdom expressing assent to the object in view. He had himself been in Venezuela, but was excluded from the mine by the express orders of the directors, which I think was an unwise course for them to have adopted. Several of the shareholders who had communicated with him had expressed their willingness to place their proxies at his disposal when the time arrived for doing so. He thought it desirable to call the meeting, to endeavour to force the hands of the directors in order to know what was going on at the mine. He believed that the unfavourable position they were now in was due to the theoretical instead of practical management which existed at the mine. He thought the ore should be carefully dressed before it was sent over, and his object was to afford the shareholders an opportunity of exchanging their views upon the general affairs of the company. In conclusion, he suggested that a small committee should be appointed to meet the directors, and he hoped that by necessary changes the mine would speedily be brought into a profitable position.

A SHAREHOLDER presumed that the directors were waiting for the result of the explorations recommended by Mr. Darlington.

Mr. WARD thought that before the meeting, should explain why they were to force the hands of the directors, and also that the convener should lay some policy before them.—The DIAIRMAN remarked that various shareholders were of opinion that they should meet and decide upon the course to be adopted. They should at least send a protest to the directors against withholding information, and request them to call a meeting.

Mr. R. LORRINGR add that they were not in a position to take up Mr. Ward's views.—Mr. WARD declared that he had expressed none, nor did he intend to until he had heard something practical suggested.

Mr. LORRINGR add that they were not in goorance, and they wanted to see whether the had to be a constant of mine the property was managed by a raily suggineer, and of the kingdom expressing assent to the object in view. He had himself been in Venezuela, but was excluded from the mine by the

eting. ed a friendly deputation of shareholders to meet the than to appoint a committee. If the directors' reply

Mr. GREENIP considered a friendly deputation of shareholders to meet the directors would be better than to appoint a committee. If the directors' reply was unsatisfactory the deputation could then call a meeting.

A SHARKHOLDES said he had just seen Mr. Horming, who said that a board meeting would be held on Monday to fix the general meeting. He understood that the result of the negociations going on would be that the freight would be reduced from 44. 5s. to 11 5s. per ton over the railway, and that the quantity would be reduced to 10,000 tons.

Mr. Walb had been a vary large sharehold.

from 4.0 % to 14 % per ton over the railway, and that the quantity would be reduced to 10,000 tons.

Mr. W-AhD had been a very large shareholder from the beginning, and had never trafficked in the shares, and he had always been received with courtesy by the directors and officers; he was, however, of opinion that nothing was so damaging to a company as such meetings at these. The Chairman had said that by order of the directors he was excluded from the mine. He would, therefore, ask whether the refusal was general—that no one was to be admitted to the mine—or personal to Mr. Bird?——The Chairman said it was personal to himself.

Mr. WARD regretted it, as the refusal implied that there was some special reason on the part of the directors why Mr. Bird should not be admitted. The bane of the company had always been the constant agitation kept up by speculators in the shares. He had made enquiries, and his information was that the general meeting was about to be held, and one of the reasons assigned to him for the delay was that they wanted to get the accounts closed to the end of the year, which seemed to him reasonable. He must say that he never had any difficulty in obtaining information. He had been told that Mr. Darlington was a good man, and the result of carrying out his suggestions ought to be ascertained. Unless there were personal reasons he believed that Mr. Darlington was a good man, and the result of carrying out his suggestions ought to be ascertained. Unless there were personal reasons he believed that full information could be obtained from the directors. It was the easiest thing in the world to get rid of the present board, as all were willing to retire, but he believed there was no foundation for this meeting, so far as the holding of the general meeting was concerned, and he thought it might even be unwise to hold it until the negociations were concluded.

After some further discussion, in which Mr. WARD, Mr. RTCHIE, Mr.

concluded.

After some further discussion, in which Mr. WARD, Mr. RITCHIE, Mr. BELAIEFF, and others took part, it was resolved.—"That a deputation of shareholders be appointed to confer with the directors to obtain information as to the position of the company, and that the deputation be requested to acquaint the rest of the shareholders of the result of the interview through the medium of the Mining Journal."

of the Mining Journal."

The gentlemen chosen to form the deputation were Messrs, Lorrimer, Ritchie and Bird, and thanks having been voted to the Chairman the proceedings ter-

ROSSA GRANDE GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the

offices, London Wall, on Tuesday,

Mr. George Reckitt in the chair.

Mr. John E. Dawson read the notice calling the meeting. The
meeting was called to consider and, if thought fit, approve a proposal which the board had received, through the instrumentality
of Mr. J. N. Gordon, for the purchase of a portion of the company's
property—the Gong Seco. estate—subject to a preliminary inves-

or Mr. 3. N. Gordon, for the purchase of a portion of the company's property—the Gongo Soco estate—subject to a preliminary investigation and trial to be conducted at the expense of the purchasers.

The CHAIRMAN said: Gentlemen, you are aware from the circular which you have received of the object of this meeting. I may say I exceedingly regret the absence of Mr. S. Lloyd Foster through illness, as he is much more experienced with respect to the company than I am, but I do not know that the business for which the meeting is called will take year long or require much explanation. We ing is called will take very long, or require much explanation. We have had two or three proposals with reference to this property; the first was from a gentleman in Brazil of the name of Jardine, who offered as from a genteman in Brazil of the name of Jardine, who offered a rental, and also certain terms of purchase, on the basis of deferred payments by instalments of a sum of 2300%, extending over a period of four years. Then another proposal was made by a Mr. Partridge, of New York, United States, indefinitely offering a rental and 15 per cent. of any profits to be derived from working the property. We had also placed before us a third proposal from the Minas Geraes Gold Mining Association, through Mr. Gardner, their London agent, and which is more specifically alluded to in the circumstance. perty. We had also placed before us a third proposal from the Minas Geraes Gold Mining Association, through Mr. Gardner, their London agent, and which is more specifically alluded to in the circular which has been sent out. Mr. Gardner's proposal on behalf of the Minas Geraes Association may be stated in a few words; they have an agent in Brazil, who is on his way to Minas, where the Association has already acquired property. This agent is a mining engineer of position and experience, and the Association require that he should be at liberty to inspect and test the Gongo Soco property, which they undertake to do at their own expense, and within a period of nine months, any produce obtained during the trials to be lodged with the Rossa Grande Company, and to remain the property of the company in the event of the contemplated purchase note being carried into effect, and should they elect to purchase, the produce is to form part of the purchase money. You are aware that we should seek for advice in a question of this sort, as far as it could be obtained, and we turned to Mr. Gordon, who, I may say, recommend that this offer should be accepted. You will see that it is a provisional offer; if the Gongo Soco turns out of any value we shall get a substantial price for it; if not, it will fail through. It is but right to menion that Mr. Gordon has been for some time past taking care of the company's property in Brazil, not only as British Vice-Consul, but also as a shareholder largely interested in the undersaking. I may mention that Mr. Gordon has been good enough to confer the directors. Mr. Gordon has been good enough to confer the directors on the subject, and, indeed, I may mention that in the event of any plans being arranged for resuming operations at the Bahu he will be willing to take a seat at the board, and give the company the benefit of his experience in the management of its affairs. You are aware that Mr. Gordon is well acquainted with the Brazilian district, and to secure him as a fellow-director would b

benefit to the company, if we are fortunate enough to carry on future operations. You have almost as good means of judging as the directors. It is a question where we should make an agreement according to the terms which I have mentioned. I think there can be no doubt it is a much better opening than at one time seemed to be at all probable—at least, as far as the directors are concerned it is. If this matter is carried out it will put the company in a position to make a fresh starting-point in case it should be considered advisable to go on with the other portion of the Rossa Grande property—the Bahu.

Mr. S. J. WILDE said that as attempts had been made to work the Gongo Sogo without success, and as the Rossa Grande could not apparently raise the money, he thought the shareholders could not do better than accept the present offer. He should like to know something about the Bahu Mine, because upon that would turn the question whether the shareholders would utilise the money they got to search the Bahu property still further.

Mr. CHARLES MATHEY asked whether they were not about to part with a valuable property? He also asked whether any efforts had been made to purchase the adjacent property, as was suggested two or three years ago? As long as Mr. Gordon property, as was suggested two or three years ago? As long as Mr. Gordon remained a shareholder it would give great confidence to the other shareholders, and he should welcome the fact of Mr. Gordon becoming a director.

In reply to a remark, the CHAIRMAN said the directors had no interest in the matter one way or another, and it was to obtain the opinion of the shareholders that the present meeting was called. They had at present no capital at their disposal to work the Bahu Mine, and it was to obtain the opinion of the shareholders fresh capital.

A SHAREHOLDER asked whether the gentlemen who had made the proposition were men of position?

Mr. GORDON said he could not be guarantee for third parties, but as far as his knowledge went he had no hesitation in rec

A SHARHOLDER asked whether the gentlemen who had made the proposition were men of position?

Mr. GORDY said he could not be guarantee for third parties, but as far as his knowledge went he had no hesitation in recommending the directors and the sharuloiders to accept the offer of the parties who made the proposal. One name was quite sufficient for him as a satisfactory guarantee, and that was Col. Mackie, of New York, There were three gentlemen of large capital, and their agent here was Mr. Gardner, of Worship-street. With regard to Gongo Scoo, it was recommended for purchase and trial as a jacotinga formation by Capt. Thos. Treloar, who was considered at the time the most competent person to give an opinion upon the subject. Capt. Treloar thought he could find it, and had money placed at his disposal to try the property, which he did, but made no results. Not only did he not get gold sufficient to justify the experiment, but several thousands of pounds were expended without any positive results. He (Mr. Gordon) recommended the company, if they could, to dispose of it, because not only was it not a benefit but was a source of cost, and, therefore, he advised that it should be sold and the money devoted to the development of the other property. The question was whether the property could be worked in any other way from the way in which it had been worked? It could. The American gentlemen to whom he had referred were going to work the property on the modern hydraulic system of washing away large masses of the jacotinga formation, and getting out the produce at a small cost. Probably the shareholders were aware that in America deposits had been made to pay under the hydraulic system which could not be made to pay under the English system of mining. The Rossa Grande Company would not be able to make the Gongo Soco property pay, but it did not follow that because this company could not make it pay that, therefore, no other company could make it equivalent to the hydraulic system is a mere bagatelle, provided there w Mr. GORDON said he could not be guarantee for third parties, but as far as his

of the Bahu.

A BHAREHOLDER: How long does the trial by these gentlemen of the Gongo Soco Mine last?—Mr. Dawson said they had the option of nine mouths, but it did not follow that it would take up all that time to prove the property. He said it was important the shareholders should clearly understand, and take it as a distinct promise from the directors, that in the event of the money being obtained it would be used either for carrying out the works at the Bahu Mine on a comprehensive soale, or it would be divided amongst the shareholders. He should be sorry to see the money frittered away, and not used for the benefit of the shareholders. If the money make obtained the question of dealing with it would be brought before the shareholders. (Cheers.) He added that in reply to the circular 29,378 shares had been received assenting to the course proposed, and only 146 shares against it.

On the motion of the CHAIRMAN, seconded by Mr. WILDE, the following resolution was then unanimously accepted and the property of the course proposed.

146 shares against it.

On the motion of the CHAIRMAN, seconded by Mr. WILDE, the following resolution was then unanimously accepted:—"That the directors be, and they are hereby, authorised to accept the offer of the Minas Gereas Association."

On the motion of Mr. MATHEY a vote of thanks was passed to the Chairman and directors, and the meeting broke up.

NORTH LAXEY MINING COMPANY.

The annual general meeting of shareholders was held at the offices of the company, Austinfriars, on Thursday,
Mr. G. W. Blogg in the chair.

offices of the company, Austinfriars, on Thursday,
Mr. G. W. Blogg in the chair.

The London Manager read the notice convening the meeting. The statement of accounts to March showed a balance of assets of 1771. 17s. 5d., but a supplemental statement brought up to the date of the meeting, and including April cost, showed a debit balance of 6214. 2s. 11d. The directors' report was read as follows:—

April 25.—Your directors having recently laid you full particulars of the position and prespects of the mine, have now only to present Capt. Rowe's report for the past year. The balance-sheet, including the costs to January, shows a credit balance of 171. 17s. 5d., but by the supplementary statement, made up to April inclusive, there is a debit balance of 6214. 2s. 11d. During the year 142 tons 6 ewst. of lead ore has been sold for 18984. 17s., against 129 tons for 18864. 15s. in the previous 12 months. As the shareholders are already aware, the financial state of the company does not allow the mine to be carried on longer in a proper manner, and they will remember at the extraordinary general meeting held on Feb. 15 last the directors were requested to propose a plan for reconstruction of the company. After well considering the matter, and consulting some of the principal shareholders, an extraordinary general meeting has been called for this day to adopt a plan which it is believed will meet with general support. Two of your directors—Messrs. G. W. Blogg and S. W. Daukes—retire from office, but are eligible, and offer themselves for re-election, as do also the auditors—Messrs. Brandt, Stansfield, and Company.

The CHAIRMAX said that the whole position of the company, with the causes which had led to their present difficulties, had been so fully laid before the shareholders and discussed at the meeting recently held that it would be unnecessary for him to say anything further on these subjects. At the general meeting held in February the shareholders requested the board to prepare a plan for the reconstruction of the

TEMPLE LEAD MINING COMPANY,-The annual meeting of share TEMPLE LEAD MINING COMPANY.—The annual meeting of snare-holders was held at the offices of the company on Friday, April 26. (Mr. J. W. Williamson in the chair). The secretary read the no-tice convening the meeting and the statement of accounts, which showed a cash balance in hand of 1251/.155.5d., in addition to 5000/. unissued capital. The directors and manager's reports were read, and considered to be most satisfactory. The proposition of the and considered to be most satisfactory. The proposition of the Chairman that the directors' report and accounts be adopted was carried unanimously. Mr. Williamson the retiring director, and Mr. Cumming the auditor, having been re-elected the proceedings terminated with the usual complimentary vote to the Chairman and officers.

GREAT WESTERN COLLIERY COMPANY.—At the recent meeting of debenture-holders, held by direction of Vice-Chancellor Hall, the dedebenture-holders, held by direction of Vice-Chancellor Hall, the details of the proposed scheme for the new company was submitted. It was proposed that the new company should have a nominal capital of 150,000. divided into 30,000 shares of 5l. each—20,000 shares which were ordinary, and 10,000 shares which carried a preferential interest of 10 per cent., and having a preference not only of the profits but also in the capital, so that in the event of a winding up or realisation of the property, or any other event, there will be a provision against such a contingency as had happened to the old company. Mr. Charles Thomas (Midland Railway Company) considered two classes of debentures inadmissible. Mr. W. Tribe (Bristol and Cardiff, thought the ordinary shareholders would object to the preference shareholders having three votes to the ordinary shareholders one. Mr. Insity stated that the preference shareholders came before the ordinary shareholders, whereas debenture-holders came before creditors. Mr. Thomas said that surely the colliery was worth 80,000. If it was worth anything, and they could afford to pay 10 per cent. on all debentures. The Chairman explained that it did not follow that two classes of debentures should be created, though they took power to raise the money. They had borrowing powers, but it did not necessarily

mean debentures. The resolution was then put and carried with one and Messrs. J. Wethered and W. H. Williams were deputed to sign ment on behalf of the debenture holders. In reply to an exercise and Messrs. J. Wethered and W. H. Williams were deputed to sign a ment on behalf of the debenture holders. In reply to an enquiry as the colliery was properly worked, the Chairman said he was not a manager, but he was a proprietor of 30 years' standing, and had had not a manager, but he was a proprietor of 30 years' standing, and had had not be sufficiently and collieries. He had seen the surface and underground of Western Colliery, and if under ordinary management it did not pay then know of any colliery in South Wales that would. With only ordinary and good management there was little doubt but that every man in the redebenture and preferential holder would get back every six ponce of his and there was a prospect of the shareholders getting a fair return. The be new directors, and they should elect men who would be careful of the they spent. The colliery being practically completed, there was a fair of getting back their money. Thanks to the committee and the Chairman nated the meeting.

nated the meeting.

GUNNISLAKE (CLITTERS), AND THE FIVE-WEEKS MONTH-, meeting of the Gunnislake (Clitters) Mine Committee was held the account-house on Tuesday, there being present Mr. J. C. Iss of Liskeard, M. Nicholas Sims, and Mr. Wm. Matthews. After considering subject of the four and five-weeks/month, the committee were manimous in opinion that the interests of the company would be best served by the continuous of the present system of payment of wages every four weeks, and passed a resition to that effect.

For remainder of Meetings, see to-day's Supplement.

Original Correspondence.

NEW QUEBRADA COMPANY.

SIR -I regret that I find it impossible to reply in detail to Sir.—I regret that I find it impossible to reply in detail to the communications I have received from shareholders in this cap pany, and beg, therefore, to refer them to the report in this day Journal of the proceedings of Thursday's meeting, which was a presented by about 15,000 shares. I am much obliged to the shareholders who have placed at my disposal their proxies for the forthcoming meeting, and have no doubt that if we all pull together the company can be extricated from its difficulties. together the company can be extricated from its dfficulting Great Winchester street. W. W. BIRD

FLAGSTAFF MINING COMPANY.

SIR,—At an extraordinary general meeting of shareholders, a March 2, a resolution was passed whereby the directors were authorized to issue 25,000 preference shares of 1t. each, and a committe was appointed to make the necessary arrangements to carry a this resolution in conjunction with the board, and "the disposal the money so raised was to be subject entirely to the discretion such committee." After a month's delay the directors issued accommittee and with the conjunction of the proceedings of the meeting and, with the the money so raised was to be subject entirely to the discretion such committee." After a month's delay the directors issued a cular reporting the proceedings of the meeting, and, with the proval of the committee, recommended that the amount in quest should be raised by the issue of debentures instead of preference shares. It that this invitation has been responded to to the amount of about 2004. An has now elapsed, and no further subscriptions can be expected, and, Lundent are not. Considering "the imperative necessity of immediate funds to save company," to use the words of the circular, surely the committee should repet the shareholders the total failure of the appeal, and announce that there is a there occasion for their services, as there are no funds at their disposal, and so for the salvation of the company. I had thought that probably the commight be waiting for the annual general meeting which the directors are by law to hold this month, and of which they should give seven days notice that they would take that opportunity to declare the result of their efforts a sign their trust. But no notice of general meeting has made its appearance, yet the position of the company is described as critical in the extreme, and doubt it is. Since the meeting of March 2 a change has been made in the directors and doubt it is. Since the meeting of March 2 a change has been made in the directors in the directors of the company is described as critical in the extreme, and doubt it is. Since the meeting of March 2 a change has been made in the directors and Mr. Vincent's confident tone has proved unwarranted. I desire to draw too to the neglect of summoning the annual general meeting—a serious gularity under any circumstances, and under the existing conditions of the pany a very gross impropriety.

MORFA DU MINING COMPANY

MORFA DU MINING COMPANY

MORFA DU MINING COMPANY

SIR,—Being interested in this mine as a rather large subschie
I write to ask for information concerning the time it may requi
to reach the bluestone deposits expected to be found in the nu
level to be driven, and now down already 11½ fathoms. It is state
that the end of the month will see the shaft sufficiently deep to us
mence this level, but at what distance from the shaft these deposits are expect
to be struck appears to me to be the question at issue, and the time required to
so. It is a fact that 150 tons of bluestone have been raised, samples sent to Begin
and orders for 3000 tons per annum were forthwith given, which if raised and e
at the prices named would yield, it is believed, 25 per cent, of the whole capial
11,250. The present subscribed capital, however, is only 7500t,, and at this a
culation should yield something like 40 or 50 per cent, on the limited capital
named. It remains, however, to be proved what mass of metal will be found
and in the subscribed capital, housever, and the subscribed capital
manually of opinion that Morfa Da like
will turn out a great success ere the close of the year. Of course, we are loom
anxiously for the anticipated results of the driving of this deep level, and our in
months' patience we must believe will be more than amply rewarded,

London, April 25.

OLD TREBURGETT MINE

OLD TREBURGETT MINE.

SIR,—I am sorry to see this splendid concern in the state it in, as it is a well-known fact that Old Treburgett is one of the lamining properties in the United Kingdom if worked as it ought be. Any company may well congratulate themselves upon the squirement of this valuable sett, as there is no doubt the mine will represent the late of the most properties of the poet properties. quirement of this valuable sett, as there is no doubt the mine will prove itself to be one of the most profitable yet worked in Cornwall: and it is nine had been practically worked the shareholders would have reaped the beaf of the undertaking. The facilities for working the property are very favormic as there is an excellent stream of water running through the sett available of drawing purposes. In conclusion, I would remark that it is a property of greater and if vigorously worked with judicious management a very small agia will make it a good and lasting mine. I would recommend that the Grisshaft be sunk, and as depth is obtained a profitable lode will be most with, as and die never rides a poor horse in Cornwall. This shaft can be sunk by water post at any rate for eight months out of twelve.

AN OCCASIONAL VISITUE.

St. Teath, April 13.

[For remainder of Original Correspondence see this day's Supplement.]

THE SCOTCH MINING SHARE MARKET—WEEKLY REPOR AND LIST OF PRICES.

During the past week business has come almost to a standstill a the result of the Easter holidays intervening; after them, the critical aspect of foreign affairs and the near approach of the usus fortnightly settlement prevented any important transactions being the contract of the contract transactions being the contract of the cont entered into, and the changes to be recorded in prices are unusus few. The money market is firmer in the face of empected gold few. The money market is firmer in the face of expected gold & rivals. The revenue returns, just published, show a considerable is crease on total receipts into the Exchequer for the first period of the curs inanoial year, which is satisfactory in present circumstances. The important announcement is made that Capt. Burton has returned to Cairo with 25 tost specimen gold, silver, copper, tur, and leaf ores, and may be expected shortly Bugland to make arrangements for the working of the mines for the Khell In shares of iron and coal works.

Specimen gold, silver, copper, tin, and lead ores, and may observe the Bogland to make arrangements for the working of the mines for the Kaell of Egypt.

In shares of iron and coal concerns, Scottish Australian have advanced 2d per share, while Ebow Vale are reduced 2s. There has been a rumour curt that the Government will prohibit the export of coal, owing to the Russian the fit to the top trivateers, as it is known large shipments are being made from thely and Humber on Russian account; but it is to be hoped so damaging a step for coal trade will not be necessary. Chapel House shares have improved at 8s 70s., on expectation of a dividend this half-year, which has caused "beas" press to close their accounts, but it is believed they have not as yet been success in so doing; the 7½ per cent. debentures are unaltered. Only one pit has been closed at present at Thorp's Gawber Hail Collicries, and if trade improves it be started again, as it is being kept in order. The other two pits are working time, getting about 5000 tons weekly, but of course prices must be much age the collieries now. The pit that was shut down produced a great proportion amail coal, which is not only expensive to work, but never brings a good panless in vary brisk times; at present it would not anywhere near pay a good panless in vary brisk times; at present it would not anywhere near pay a good panless.

nada and Tirito to 5s. to 7s. Chica Flagstaff, 12s. 6d. South Aurera, 2s. oil companies' shall and Young's Peded better in male to the regulion. CONDITION sion of trade

27,

calls, must rs and man accept a very few ley the most property work on as a cholders losing prices, for installant Marke Valley on impoverishing the examples of the be done to

Previou ... £ 61/2 ...22s6d] ...4s|Ap ...10s|D ... nil ... nil 4 ... -7 ... 57½ 1 ... 2½ 15s. ... 2½ 9¾ .. nil 23s. ... -10 ... 6† 20 ... 7 100 ... 5 10 ... 22½ 7 ... 22½

7 ... 6 1 ... 7½ 58... 2½ 10 ... 2½ 10 ... 9 25 ... 5 rtained, Scotch co breare interested. ation for them an sinserted in these company, with an

Office Building NANZA DIVID Hiester, of San dends paid by Consolidated res in May, 187 d 13 per share, am monthly dividende share, amount

ount of divident idends of \$1,08 shares were su ead of 108,000 h, 1878, both re each ; togetl \$38,880,000. T ed paying di ailar dividend 40,000, which 0 000, make prospects of the naking their e that the min 8,000,000 or \$20 des, there are ng. The prosp nes are as good sight to yield re than 3 ft. de action of the p ame time t mia will pro

produce more dingly heavy; ate tax of 90 ce IOLLOWAY'S OI ahine, will sorely many maladies a sek of stiffness or diately be had to this remarkable oil mammation, and restitutional distury cred has proved sette, and scrofulor editary.

ada and Tirito tunnel, adding Mina Grande looking well. Cedar Creel 5. to 7s. Chicago, 27s. 6d. Eberhardt, 5%. Emma, 1s. 6d. Frontino 5s. to 7s., 6d. Javall, 6s. Rossa Grande, 2s. Santa Barbara, 28s. to

mada and Tirito . Ohiosgo. 27s. 6d. Eoerman, 15s. to 7s. Ohiosgo. 27s. 6d. Eoerman, 15s. to 7s. Ohiosgo. 27s. 6d. Eoerman, 15s. to 7s. Ohiosgo. 27s. 6d. Javail, 6s. Rossa Grande, 2s. 6d. Javail, 6s. Rossa Grande, 2s. 6d. davance, but oil companies shares Oakbank (new) have been done at 9d. advance, but oil companies shares Oakbank (new) have. It is said the Uphall has ill and Young's Paraffin are each 1s. 3d. lower. It is said the Uphall has ill and Young's Paraffin. The price has seed better in making sales this year than Young's Paraffin. The price has are of or miscellaneous companies quite neglected.

8/d. per gallon, but is a trifle firmer now at 7d.

8/d. per gallon, but is a trifle firmer now at 7d.

8/d. per gallon, but is a trifle firmer now at 7d.

8/d. Miner's Safe, 7% to 8%.

8/d. Miner's Safe

has been nothing doing in wagon companies' shases, but Scottish are flered.

E CONDITION AND PROSPECTS OF MINING.—In the present ECONDITION AND PROSPECTS OF MINING.—In the present spanies who have capital on hand, or can get their shareholders panies who have capital on hand, or can get their shareholders and managers will not discharge all hands at all such the present avery few, just sufficient to keep machinery, &c., in order, and to except a very few, just sufficient to keep machinery, &c., in order, and to comply the most promising point till things come right again. Instead of they work on as usual, make incessant calls, and then wind-up, resulting in they work on as usual, make incessant calls, and then wind-up, resulting in they work on as usual, make incessant calls, and then wind-up, resulting in the wind in the same way, and the problem is—is Marke Alley selling hundreds of tons of ore, and yet cannot pay costs—the examples could be pointed out in the same way, and the problem is—ther examples could be pointed out in the same way, and the problem is—the impoverishing of the shareholders and the mine at the same time, the impoverishing to the lowest possible point, and make very cells, keeping the ore in the mine until something better can be made of it, and almost giving it away; ention to this will do great good, for the time has now come when something be done to retain the support of investors, who appear, as a rule, to be make the problem is—the pro red.
CONDITION AND PROSPECTS OF MINING.—In the present

		ck l	TOL	dda	nds.		
apit	al.	4				Description of shares.	
					cent		Lost
	Paid				nm.		Last
	up.	Pr	evio	us.	Last	COAL, IRON, STEEL.	price.
	£8		B 63	6	£ 73	Arniston Coal (Limited)	71/4
	10		4		4	Benhar Coal (Limited)	7.13s 6d
***	50	2	2a6d	13	486d	Bolekow, Vaughan, and Co. (Lim.) A.	5416
***		***	10	8.10	10	Cairntable Gas Coal (Limited)	814
	10	***	- I A -		1076	Chillington Iron (Limited)	
	10	4	SA	orn,	1010		65s.
***	20	1	0s L)ec.,	1874	Ebbw Vale Steel, Iron, and Coal (Lim.)	6 1/8
	6		nil		nil	Fife Coal (Limited)	70s.
***	10	***	nil		nil	Glasgow Port Washington Iron & Coal(L)	35s.
***			_	***	_	Ditto Prepaid	40s.
***	10	***				Lochore and Capledrae (Limited)	
	10	***	-		_		80a.
	10		nil		3	Marbella Iron Ore (Limited)	55s.
***	10		nil	***	nii	Monkland Iron and Coal (Limited)	358.
	10	***	5	***	4	Ditto Guaranteed Preference	60s.
			nil			Nant-y-Glo & Blaina Ironworks pref. (L)	19
	100	***		***			
***	6	***	nil		nil	Omoa and Cleland Iron & Coal (L. & Red.)	
	1	***	15	***	15	Scottish Australian Mining (Limited)	37F. 6d
	10s		15		15	Ditto New	158.
	100		nil		nil	Shotts Iron	91
***	100	***	****				
					CU	PPER, SULPHUR, TIN.	
	4		-	***	-	Canadian Copper and Sulphur (Lim.)	48.
***	7			18	25	Cape Copper (Limited)	30
		***				Glosgow Caradan Conner Mining (Tim)	
***	1	***		See		Glasgow Caradon Copper Mining (Lim.).	
***			25	5		Ditto New	13s.
	93	4	nil		nil	Huntington Copper and Sulphur (Lim.).	33s. 6d
	238.		-		_	Kapunda Mining (Limited)	ls.
***	4	144	_	***	_	Panulcillo Copper (Limited)	
761		***	61		61	Die Tinte (Timited)	20s.
111		***		***		Rio Tinto (Limited)	60s.
***	20	***	7	***	7	Ditto, 7 per cent. Mortgage Bonds	13
***	100	***	5	***	5	Do., 5 p.et. Mor. Deb. (Sp.Con. Bds.)	55
	10		225	6	20	Tharsis Copper and Sulphur (Limited)	99/11-9/
***	7		225		20	Ditto New	
***		***	447	2			1534
***	1	***	-	***	-	Yorke Peninsula Mining (Limited)	6s. 3d
	1	***	-	***	-	Ditto, 15 per cent. Guaranteed Pref	17s. 6d
						GOLD, SILVER.	
***	1	***			_	Australian Mines Investment (Limited).	8s.
***	8	7	8. 60	117	B. 60		936
							-/0
						OIL.	
	7	***	6		15	Dalmeny Oil (Limited)	734
***	1	***	71	4	25	Oakbank Oil (Limited)	408.
***					25	Ditto	
	10			6		Unhall Mineral Oil (Timited)	10s. 9d
144		100	67		17	Uphall Mineral Oil (Limited) "A"	57/8
	10		-		-	Ditto "B" Deferred	10
***	10	***	-	***	_	West Calder Oil (Limited)	40s.
***	84		9	***	175	Young's Paraffin Light & Mineral Oil(L).	
288	-/2			***	-17	o manin might a mineral Off (1).	14%
						MISCELLANEOUS.	
	25			***	6	London and Glasgow Engineering & Iron	
***				***	0	Shiphuilding (Timited)	
			20			Shipbuilding (Limited)	
***	-7	***	10	***	15	Phospho Guano (Limited)	91/4
***	10	***	6	***	6	Bcottish Wagon (Limited)	11/ 10 5
	4		a	-	a	Dista War	

ONANZA DIVIDENDS.—We have been favoured by Messrs. Bunker Hiester, of S in Francisco, with an interesting table showing the dends paid by the Consolidated Virginia and California Mines. Hiester, of Sun Francisco, with an interesting table showing the idends paid by the Consolidated Virginia and California Mines. Consolidated Virginia commenced paying dividends on 108,000 res in May, 1874, and in that year paid eight monthly dividends 3 per share, amounting \$2,592,000. In the following year twelve unthly dividends were paid, two of \$3 per share, and ten of \$10 share, amounting together to \$11,448,000. In 1876 the same ount of dividend was maintained throughout, paying the twelve idends of \$1,080,000 per month, or \$12,960,000. In April, 1876, shares were subdivided, the capital being fixed at 540,000 shares tead of 108,000, so that thenceforward \$2 per share on the new maber represented \$10 per share on the old. During the first four eaths of 1877 no dividends were paid, but from May, 1877, to reh, 1878, both inclusive, eleven dividends of \$2 per 540,000 three each; together, \$11,880,000 were paid, raising the gross total \$38,880,000. The California, divided into 540,000 shares, comneed paying dividends of \$2 per share in May, 1876, and has paid imilar dividend every month up to and including March, 1878 lelsst month to which advices extend), the total amount being \$80,000, makes a grand total of \$63,720,000. With regard to prospects of these mines for 1878, Mr. Mackay gives a very enraging account. It appears that the Commissioners of Storey, making their estimates for the bullion tax, adopted the calculantat the mines will yield about \$10,000,000 this year; this is low. "I think (eays Mr. Mackay) the product will reach \$8,000,000 or \$20,000,000. HOphir turns out anything, and Justice as swell as usual, the highest amount named will be easily made, side, there are several other mines that are liable to strike someas well as usual, the highest amount named will be easily made les, there are several other mines that are liable to strike somesides, there are several other mines that are liable to strike someling. The prospects of the Consolidated Virginia and California
lies are as good as at any previous time; there is enough ore now
sight to yield \$18,000,000 or \$20,000,000, even if it did not reach
lee than 3 ft. deeper than at present develoded. There will be no
luction of the product of Consolidated Virginia this quarter, while
the same time the product of California will be increased. I think
lifornia will produce over \$14,000,000 this year; I am satisfied we
produce more than last year. You know that our taxes are exdingly heavy; they amount to nearly \$75,000 a quarter. The
last tax of 90 cents on each \$100 is an outrage; it is not fair play."

OLIOWAY'S OINTMENT AND PILLS.—The sudden storms, followed by while, will sorely try all persons prone to rheumatism, sciatica, tio-doloroux, many maladies escreely less painful, though of shorter duration. On the first dot of times or suffering any muscle, joint, or nerve, recourse should imflately be had to fomenting the seat of the disease with not brine, and raubbing his remarkable dintment, which will assuage the uneasiness of the part, subdue ammation, and reduces welling. The pills simultaneously taken will rectify situational disturbances, and renew the strength. No remedy heretofore districtional disturbances, and renew the strength. No remedy heretofore district has proved so effective as the ointment and pills for removing gouty, rheads, and scrotlogs attacks which afflict all ages, and are commonly called editary.

WATSON BROTHERS' MINING CIRCULAR.

Ten years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the Mining Journal, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clementina Mine.

WATSON BROTHERS.

MINEOWNERS, STOCK AND SHARE DEALERS, &c., 1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Mesers. WATSON BROTHERS to make their Circular now published in the Mining Journal more extensively known, and to state.

their Circular now published in the animal journal more extensively anoth, and to state—
That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o'clock.

They also buy and sell shares for immediate cash or for the usual fornightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any par vicular mine for their clients, for the inspecting agent's fee of £2 2s.

Veular mine for their clients, for the inspecting agent's fee of 22 2s.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. Watson, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (stress eight), "Cornish Notes" (stress eight), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. Watson was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. Watson Brotters have always a selected list on hand. Perhaps at no former period in the annuals of mining has there been more peculiar need of honest and experienced "dvice in regard to mines and sharedealing than there is at present; and from the lengthened experience of Messrs. Watson Brotters they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

oldened to offer, thus publicly, their best services and advice to an ining.

Inines and mining.

Sesses. WATSON BROTHERS are daily asked their opinion of particular es, as well as to recommend mines to invest or speculate in, and they give radvice and recommend mines to the best of their judgment and ability, ded on the best practical advice they can obtain from the mining districts, they will not be held responsible, nor subject to blame, if results do not appropriate the expectations they may have held out in a property so fluctuating inning.

D'ERESBY MOUNTAIN .- The North Wales correspondent of the JURIAL MOUNTAIN.—The North Water correspondent of the Journal in speaking of the rise from 20l. to 100l. per share in this mine, and in a reference also to Van, seems to have forgotten the fact that there are only 512 shares, and at 100l. each the mine stands at little more than 50,000l. Van in 15,000 shares at 23l. each stands at 345,000., and to pay 10 per cent. on this amount requires a profit of 34,500. a year. At D'Eresby Mountain one stope in the back of No. 4 345,000*l.*, and to pay 10 per cent, on this amount requires a profit of 34,500*l.* a year. At D'Eresby Mountain one stope in the back of No. 4 adit has since the rise in price referred to, and at a cost of about 22*l.* per month, produced about 2000 tons of leadstuff, which at a low estimate may produce 1200*l.*, broken at a cost of 110*l.*—a thing almost unparalleled. Mr. Jehu Hitchins calculated from this easy and inexpensive mode of working that the lead could be raised and dressed ready for market at half profit, so that about 70 tons per month would give 10 per cent, on a capital of 50,000*l.*, and this return will be much under the estimate if the lode at No. 5 is found as good as at No. 4 where there is a long course on the lode. East Van is a as at No. 4, where there is a long course on the lode. East Van is in 18,000 shares, which at 6*l*. is equal to 108,000*l*. If to be judged by comparisons, therefore, D'Eresby Mountain is not yet at one-fourth its value. The reason that the rise referred to looks so large is this—the mine was brought out at a low price, and has risen according to its requestions.

to its productiveness.

Since the above remarks were written, we understand the mine has been visited and inspected this week by several gentlemen, and by some practical miners; and so far as we can learn all have been by some practical miners; and so far as we can learn all have been much pleased. Those whom we have seen since their return tell us they consider the discovery has not by any means been overrated. In clearing No. 5 adit to get under the discovery in No. 4, some rocks of solid lead ore have been met with on the lode, 200 fms. further north; and here, in the valley, the agents recommend in their report to sink a shaft, which may open out another rich mine. The sett, from the large addition lately made to it in this discourance of the large addition lately made to it in the discourance of the large addition lately made to it. rich mine. The sett, from the large addition lately made to it this direction, is now among the largest in Wales, being 800 fms

rich mine. The sett, from the large addition lately made to it in this direction, is now among the largest in Wales, being 800 fms. long on the run of this lode.

Saturday, April 20.—Market very quiet, most of the dealers being absent. D'Eresby Mountain, 80 to 100; D'Eresby Consols, 12 to 14; East Van, 6 to 6½; Van, 20 to 22; Leadhille, 3½ to 4; Tankerville, 4 to 4½; South Condurrow; 11 to 11½, ex div. 8s.; Peevor, 6½ to 6½, ex div. 8s.; Grenville, 3½ to 4; Gars, 3½ to 44; Cara Brea, 42½ to 45; Dolcoath, 30 to 32; Mellanear, 44½ to 44; Monday, April 22.—Market closed.

Tuesday, April 23.—Market isnative, and the following are for the most part nominal quotations. Cara Brea, 42½ to 45; Devon Great Consols, 2½ to 3; Dolcoath, 30 to 32; D'Eresby Mountain, 80 to 100; D'Eresby Consols, 12½ to 14; East Van, 5½ to 6½; Grogwinion, 3½ to 3½; Great Laxey, 18 to 19; Leadhills, 3½ to 4½; Rockhope Lead, 17s. 6d. to 20s.; South Condurrow, 11½ to 11½ exterle, 12½ to 4½; Tankerville, 4 to 4½; Tankery, Mountain, 80 to 108; West Chieveton, 12 to 13; West Pateley Bridge, 1½ to 2½; West Chieveton, 12 to 13; West Pateley Bridge, 1½ to 2½; West Tolgus, 62½ to 65; Wheal Agar, 3½ to 4; Grenville, 3½ to 4; Flagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Wednerder, 5½ to 6½; Flagstaff, 10s. to 12s. 6d.; Fortine and Bolivia, 2 to 2½; Wednerder, 5½ to 6½; Flagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Wednerder, 5½ to 6½; Elagstaff, 10s. to 12s. 6d.; Fortine and Bolivia, 2 to 2½; Ederhardt, 5½ to 6½; Flagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Wednerder, 5½ to 6½; Elagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Ederhardt, 5½ to 6½; Elagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Ederhardt, 5½ to 6½; Elagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Ederhardt, 5½ to 6½; Elagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Ederhardt, 5½ to 6½; Flagstaff, 10s. to 12s. 6d.; Frontine and Bolivia, 2 to 2½; Ederhardt, 5½ to 5½; Ederhardt, 5½ to 5½; Ederhardt, 5½ to

ECHOES FROM THE MINING MARKET.

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Owing to the favour in which the "D'Eresby Mountain district" is now held, not only by the public, but by practical mining authorities, some members of the mining market took the opportunity offered by the Easter holidays to devote a few days to the inspection of D'Eresby Mountain and its surrounding mines. Although it may scarcely enter into the calculation of business men, who undertake the journey solely with the idea of gaining practical knowledge by a personal inspection of the mines of a rising district, yet as many shareholders interested in the later may contemplate a visit to their property, combined with a summer holiday, it may not be out of place to mention here that the district is situated in the midst of some of the finest seenery in North Wales. Bettws-y-Coed, with its Fairy Gien, Swallow Falls, and numerous other picturesque spots, is as near to most of the mines as Liunrwst town, whilst from Fandora a splendid view of "ugged and fantatic mountain scenery can be obtained, prominent amongst which rise the twin peaks of Snowdon. Between the mines and Lianrwst town is the beautiful Vale of Conway, unrivalled for quiet beauty, and at its northern end, where the river mingles with the Irish Sea, stands the interesting town of Conway, still possess.

peaks of Snowdon. Between the mines and Llanrwst town is the beautiful Vale of Conway, unrivalled for quiet beauty, and at its northern end, where the river mingles with the Irish Soa, stands the interesting town of Conway, still possessing entire its medieval walls, towers, and gates, and chief of all, its ancient castle, probably one of the most perfect examples of its kind extant.

We are, afraid, however, we are digressing. Perhaps the remembrance of the pleasant days we have spent at Lianrwst at intervals during the past six or eight months has led us too far away from a plain, practical, and business recital of the latest aspect of the district (as viewed at Eastertide), therefore we will leave to such shareholders as may take our hint to combine a business view of a few days enjoyment, the discovery of other beauties, and proceed with a short account of such "Echoes" as reached us during the past week.

One of the first of these, even before we arrived at the D'Eresby Mountain Mine, was that "a new lode had been discovered." And such, in fact, may prove to be the case, although we believe some practical authorities, whose opinions are entitled to the greatest respect, say it is the Gorse lode. In clearing out a shaft which in former times had been communicated with No. 5 adit the discovery was made, of a character totally different from anything yet seen in the mine. A comparison of a stone of the ore with one produced by the Gorse lode in No. 4 adit showed the most marked contrast. The new lode is of a very masterly character, the ore being what is technically known as "steel ribbed." It shows a solid leader of lead about 1 in. in width, and a little spar intermixed with blende. An opinion was formed by many present from the appearance of the lead, silver would be found at the spent from the appearance of the lead, silver would be found a found in it, and the agents being strongly of the same opinion, a sample was formed by many present from the appearance of the lead, silver would be found a bout 1 in.

promising "steel ribbed ore" lode has been added to the discoveries. Of course all mining is more or less a speculation, but certainly few properties can so confidently reckon upon success as D'Eresby Mountain. There are at least half a dozen other points here which may make a great mine. We take some credit to ourselves that before it became such a favourite as it is now upon the market, we discovered its merits and brought it under the notice of our readers when the shares were about one third the present price.

As we have so often referred to this district, and particular mines in it have also been frequently referred to in the columns of this Journal, a brief reference on our part to some of the mines surrounding D'Eresby Mountain is, perhaps, all that will be needed by our readers. At Pandora the prospects never looked better, for the mine is at its richest, and shows every indication of steady improvement and permanent prosperity. The shares have become much firmer on the market, and been enquired for since the resumption of business at 15s. to 20s. Bettws.y Coed is making a good start, whilst at Lianrwst can be seen some good dressing floors. At our last visit to the district we had not seen this mine, and certainly must now give the palm of dressing machinery to it. The laying out of the floors reflects credit upon the agent who planned them. Although we did not see White-cliff Mine, except from Lianrwst Mine, we perhaps should state that according to local report its dressing machinery (Green's patent we believe) is also of a very perfect character. The mine, however, being entirely in provincial hands, is little visited by London mining men. Reference to the other mines comprising the district we defer to our next remarks.

Since the resumption of business after the holidays the mining market has been very quiet, but a very fair business has been done in the D'Eresby Mountain "group" and in Tankerville, Van (these are very duil and weak at 19½ to 20½), Great Laxey, West Wys Valley, Grogwinion, Leadhi

THE WEEK.

THE WEEK.

D'ERESBY MOUNTAIN,—Llanwrst has long been celebrated for its church, with the Inigo Jones chapel, containing the famous portrait brasses of the Wynn family; it is now fast becoming the centre of a most important mining district, in a great measure owing to the discoveries made at D'Eresby Mountain under the management of Capt. W. Bennetts. Half an hour's walk from Llanwrst up a pleasant valley brings us at once to the main adit, and to Capt. Bennetts house, where the miner's suit, chiefly remarkable for the rigid unyielding hat, is obtained, also candles, and a lump of clay by way of a candlestick. Kind friends affect to insist on taking a solemn leave, which the writer after (on entering the mouth of the adit) stumbling over a large boulder of lead, and while prone, receiving a plentiful shower bath from the roof, is disposed to consider as very opportune and well timed. Capt Bennetts leads the way, and presently advises us to have our hands as free as possible, as we are passing over a shaft left open by the good "old men" which has never been bottomed. The water beneath our feet increases, the rain from the roof never ceases, and by this time it is freely admitted that our boots are spoiled for the day.

A tussle with a couple of fir trees roughly nailed together, said to be a ladder, and the position is won, for we are in the lofty domical cavity, with lead to right, lead to left, and hundreds of tons at our feet, while the glistening roof sufficiently accounts for this being fancifully called the "Silver Chamber." Nine years ago fly. John the hundreds of tons at our feet, while the glistening roof sufficiently accounts for this being fancifully called the "Silver Chamber." Nine years ago fly. John the hundreds of tons at our feet, while the glistening roof sufficiently accounts for this being fancifully called the "Silver Chamber." Nine years ago fly. John the hundreds of tons a similar sight at Van. The lode is here over 30 ft. wide. The matrix is a pure white carbonate of lime and spar, which

indifferent road led us past the Bettws-y-Coed Mining Association and the White Cliff Mining Company. Here Green's Patent Dressing Apparatus is used, and highly spoken of. The large chimney-stack, a short distance further on, belongs to the LANRWST MINING COMPANY.—The surface works here are by far the most considerable of any in the district. The main shalt—if we understand Capt. Knapp aright—is now down nearly 46 fathoms. The dressing floors are admirably arranged, and signs are evident everywhere of energetic working, such as might have been expected from so spirited a proprietary. A better price for lead is much to be desired here. Some of the ore requires to be burnt, and the pumping by steam-power all adds, of course, to the expenses. There is a magnificent view of Carnarvonshire to be seen from all parts of this property. The shares are at all times very readily dealt in on the London market. The adjoining mine is known as the Vale of Conway, where a considerable amount of work has been done, and a water wheel erected, in a very spirited manner, with a moderate expenditure of capital. The manager is Capt. John Roberts, of Lianrwst.

BATUBDAY, APRIL 20—The Grand Railway of Oanada has issued probably in one shape or other since its commencement not less than 30,000,000. capital, and the half-yearly report now sent out states that a profit of 49,000. odd has been made, which has been nearly all absorbed by paying 3 per cent. on the first preference, only 1728. remaining to be carried forward. This stock was issued on the understanding that 5 per cent. was to be paid until the ordinary stock received 3 per cent., when it was to be raised to 6. There has been a considerable falling off in the passenger receipts, but those for goods show an improvement.

MONDAY.—Bank Holiday. Stock Exchange closed.

TUESDAY.—A fair business was done in mining shares, while the railway and foreign departments were still affected by the holidays, and mostly neglected. There was considerable enquiry for Great Laxev, Grog winton, a

AMERICAN COAL FOR EUROPE.-The American papers announce the departure from Philadelphia of the steamer Pottsville for Havre with a cargo of coal. The papers state that this vessel is bound upon an enterprise of great moment directly to the coal mining inupon an enterprise of great moment directly to the coal infining interests of the country, and indirectly to many associated branches of American industry. The Pottsville is the largest steam collier of the Philadelphia and Reading Railroad Company, being 26 ft. long, 39 ft. beam, and 18 ft. depth of hold, with single inverted direct scring surface condensing sagness of 500 nominal horse-power, and has on board 1750 tons of coal. The steamer or osses the Atlantic not only to transport to the Paris Exhibition the exhibit of the comthe Atlantic not only to transport to the Paris Exhibition the exhibit of the company, but with a much more important object in view, for the railway company have reasons to hope that the present voyage will be the means of opening a European market for American anthracite. The New York Heraid says: "Some idea may be formed of the far-reaching extent to which the prosperity of Eastern Pennsylvania may be effected by this undertaking when it is known that the Reading Railroad and the Coal and Iron Company have 23,000 employees, thus making at a fair estimate 100,000 people dependent upon them. The Pottaville takes out samples of coal of all sizes and kinds, the design of the company being to illustrate practically the advantages of using both for manufacturing and domestic purposes—the hard clear coal of the United States in preference to the soft bluminous coal of Euope. For purposes of practical illustration stoves of all kinds are to be used, and part of the carge of the Pottaville is 32 cooking and heating stoves, to show how coal is burned in this country. Amongst the lumps of coal on board the Pottaville is also now weighing 16,000 lbs. It is but natural that the sailing of the Pottaville was looked upon as an event of more than ordinary interest, and there will be much anxiety throughout the country to learn the result of the experiment." Should this new feature in American exports to Europe be successful, 14 other collers will be sent to the Mersey, Clyde, and Thames from Philadelphia by the same company.

GREAT DYLIFFE LEAD MINING COMPANY (Limited).—A petition for winding up this company by the Chancery Division of the High Court of Justice has been presented to the Master of the Rolls by Mr. Officy Bohun Shore, of Queen Anne's Mansions, Westminster, and the petition is directed to be heard before the Master of the Rolls on Friday, May 5.

Mining Correspondence.

BRITISH MINES.

BRITISH MINES.

ABERDAUNANT.—8. Toy, April 24: The lode in the 15 east continues the same as reported on last week; there is no alteration whatever.

ASSHETON AND WEST ASSHETON.—G. Rickards, April 25: There is no material change to report during the last week in either of the mines. Our rate of dressing ore is very respectable, coming up to my calculations. Our sales and shipments for the month of April are as follow:—Lead ore, 6:261.; copper (about) 1001.; cid iron, 509.; total, 7:161.

BEDFORD UNITED.—R. Goldsworthy, W. Phillips, April 16: The shaftmen have completed cutting ground for the plunger, connection, &c., and are now engaged in sinking and cutting ground for bearers and cistern below the 188 fm. level, where the lode is worth 161. per fathom. The lode in the 138 east has been taken down, and as far as seen is still worth 151. per fathom, and looking promising as the end is extended for further improvement. The lode in the 116 east is 3 ft. wide, composed of congenial capel, quartz, mundle, and copper, worth for the two latter 151. per fathom. The lode in the 103 east is 3 ft. wide, composed of congenial capel, quartz, mundle, and copper, worth 81. per fathom. And from its promising appearance we expect an early improvement. We have three stopes in the back of the 115—No 1, worth 101. per fathom; No. 2, 61. per fathom; and No. 3, 81. per fathom. One stope in the back of the 163 is worth 81. per fathom. The rise in the back of the level west is at the present time unproductive. The tribute pitches are producing their usual quantity of ore. The nine continues to open out well, and with a fair advance in the price of copper outd leave a good profix.

BEDFORD UNITED.—R. Goldsworthy, William Phillips, April 25: The lode in the engine-shalt, sinking below the 135, is worth 122. per fathom. There has been no lode taken down in the 138 east since last reported on. The lode in the 115 east is producing saving work. The lode is the 103 east is worth 64. per fin. Me have two paraces of ore at Morwelham ready fo

stopes in the back of the 115 and one in the 103 are worth on an average 7L per fm. We have two parcels of ore at Morwelham ready for sampling to-morrow; computed weight, 120 tons.

BETTWS Y. COED.—H. G. Haley, April 22: The lode in the shaft is of the same promising character and appearance as reported last week, and worth for lead ore 30 cwts. per fathom. In the 20 fm. level, north branch, the lode is getting larger, and worth 30 cwts. of lead per fathom. In the 20, south branch, the lode is 5ft. wide, with branches of lead ore and blende throughout, and will yield 15 cwts. of lead per fathom. In the deep adit the lode is producing a little lead, and to-day the men have cut another branch on the hanging or north side, which is looking very promising; I will advise you as to its value when sufficiently opened. We shall commence to draw some nice ore from the ventilating shaft, on shallow adit to morrow, as the men have cut down the shaft, &c., to draw through. No change to notice in the other places.

promise processor and approximate an expected last work at a grant for work of the control of th

of ore per cubic fathom. The 93, 136 fms. west of shaft, which a month ago was yielding 5 cwts. of ore per fathom, is now double that value; the vein is 3 feet wide, and hopeful. No. 1 stope, in the back of the same, 22 fathoms behind the end, for about 8 feet high is poor, but the upper portion (say 4 feet) is good, and leaving good roofs; this stope is 4 ft. wide, and worth on the average for the whole height 12 cwts. of ore per athom. No. 2 stope is 4 ft. wide, and produces 24 cwts. of ore per fathom. No. 3, for some time past very poor, is gradually improving, now 3 ft. wide, and worth 10 cwts. of ore per fathom. No. 4 is 3 feet wide, value 12 cwts. The sides, 94 fms. west of shaft, yield 22 cwts. of ore per cubic fathom.—Sun Vein: This vein, in the level under the 70, 18 fathoms west of shaft, is small, 1 ft. wide, and poor, but continues to promise well for Little Limestone, over the above. We have resumed the stope in back of this level, 8 fms. west of shaft, where we are driving and stoping under the 70, 13 fms. from shaft, during last month became twitched and much poorer: its present size is 2 feet wide, and its worth 12 cwts. The stope in the back is 3 ft. wide, worth 21 cwts., and re-set at 53s. per fathom. The stope under the 40, 444 fms. east of shaft, is 1 ft. wide, and poor, worth about 4 cwts. We have reduced the men in this place to two. "Westgarth's Shaft.—Middle Vein: The 93, 70 fms. east of shaft, is 1 ft. wide, and poor, worth about 4 cwts. We have reduced the men in this place to two. "Westgarth's Shaft.—Middle Vein: The 93, 70 fms. east of shaft, is 1 ft. wide and poor, worth about 4 cwts. We have reduced the men in this place to two. "Westgarth's Shaft.—Middle Vein: The 93, 70 fms. east of shaft, is 1 ft. wide and night to expedite a through communication to the 93, west of Jeffries', in which latter place, with the same object in view, the men have been increased from four to six. The two stopes in back of the 74, 185 and 183 fathoms respectively west of shaft, are both of the same wid

DEVON GREAT CONSOLS.—I. Richards, April 26: There has been but ittle done at the different points of operation throughout the mines since my last advice, there are consequently no material alterations to report.

EAST CHIVERTON. R. Southey, April 25: We have communicated the rise in back of the 74, west of the engine-shaft; we have heen longer about this than I anticipated in consequence of bad air, but we have now good ventilation throughout the mine, which will enable us to carry on operations with better results. The 74 is being driven west of engine-shaft by six men, at 41, per fathom; lode 24, ft. wide, producing some good silver-lead, and presenting far better indications than in the level above. In the 64 cross-out, south of engine-shaft, the ground is changing, and easier for driving, so that I have good reasons to believe the lode is not far off; end driving by four men, at 124, per fathom. Since my last I am pleased to say our prospects are improved.

EAST CRAVEN MOOR.—D. Williams, April 25: In the 42 west, to get under the new shaft from surface, we have driven through the hard bar of ground re-

e new shaft from surface, we have driven through the hard bar of ground re-rred to in my former reports; the ground at present is much easier to work, do better progress is being made; the vein in the end is fully 4ft, wide, com-sed of gossan, spar, and intermixed throughout with solid branches of lead ore. he 30 west is oleared and secured 6 fathoms west of shaft. In the 65 west the in is over 3 ft, wide, producing good saving work for dressing. No other change notice to-day.

MONYDD GORDDU.-J. G. Green, April 24: Herewith I send you th MONYDD GORDDU.—J. G. Green, April 24: Herewith I send you is sheet for March, and beg to report progress as follows:—Sinking has oeen two days this week owing to a short supply of water. The ground in the is full of small strings of quartz containing minute specks of copper as altogether as a fine a stratum for the production of good deposits of mineral desired. The 24 on a cross branch in a north-easterly direction carries a nile of ore, and although not rich should be followed up, as it appears to thing, not having been seen in the 12. In the 24 west the men have been their stuff, so that I have nothing new to report this week. The same applies to the 12 cross out. As far as indications go I would judge theen within a few feet of the lode. The 12 west is suspended until the stuff is. The various stopes are producing fair quantities of good quality ore. The works are progressing favourably. The new road has been completed exe eadamising, and the masons will commence building the new wheel-pit to works are good to of stone drawn to the spot ready. Arrangements have a good to descend farm to the spot ready. Arrangements made with the East Darren, South Darren, Bronfloyd, &c., to send a good of men up the hill to-morrow to bring home a good supply of water. The not say will be a great boon.

MORFA DU.—T. Mitchell, April 25: The engine-shaft is now nearly derequired depth for starting a new level; we expect to complete the sinkin and of this week.

MORFA DU.—T. Mitchell, April 25: The engine-shaft is now nearly down to required depth for starting a new level; we expect to complete the sinking byte and of this week.

NEW BRONFLOYD.—T. Kemp, April 25: No. 3 Shaft.—North Lode: The past of the lode carried by the 121 end, west of shaft, is composed of kills and say carrying small strings of ore, in ground exceedingly hard for opening, which appearing small strings of ore, in ground exceedingly hard for opening, which appearings sery slow. I wish to correct an error that appeared in my last as previous report, in which was stated that we had about 6 ft., instead of 4 father further to extend this level to get under the point of the winze which is being as in the bottom of the 110. The above-said winze is down 11 failured in the bottom of the 110. The above-said winze is down 11 failured in the bottom of the 110. The above-said winze is down 11 failured in the bottom of the 110. The above-said winze is down 11 failured in the bottom of the 110. The above-said winze is down 11 failured in the bottom of the 110. The above-said winze is down 11 failured in the bottom of the 110. The above-said winze is about the same as when last repeat on by the 73 end, east of Curties' cross-out, is about the same as when have under the 40 east, and the lode in the bottom of the same is showing a little ore, but not to value. The tribute piets over the 10 and 73 fm. Levels are equal in value to last report. Hauling and daw largeoing on as fast as possible. Machinery in good working order.

NORTH CORN WALL.—T. Doidge, April 25: We are making good program here. The caunter lode continues to open up a very fine-looking lode; it upears and the same as when last reported. There is nothing new in the cross-out yet. We are pushling on as fast as possible towards the point where expect to find the north part of the lode.

PANDORA.—H. Nottingham, April 24: New Lode: The 33 driving south excepted to find the north part of the lode.

PANDORA.—H. Nottingham, April 24: New Lode: The 33 drivi

place in the 90 south; we have just met with another small branch, containing mixture of copper ore and sulphur, but the ground is still rather hard. Detection west continues in lodey ground. The leader of ore is not quite so solid as it is last week. There is, however, a little more copper ore scattered throughout

forebreast.

PATELEY BRIDGE.—C, Williams, April 25: The Rake vein in the 30 end
ft. wide, composed of grossen, fluorescape and the composed of grossen fluorescape and

matter the sin lodey ground. The leader of ore is not quite so solid as is we see weather see is, however, a little more copper ore soutered throughout we were weather seeds in the content of the leader of ore soutered throughout the forebreast.

PATELEY BRIDGE.—C, Williams, April 25: The Rake vein in the 9 seeds of the content of the leader of the latter than the content of the leader of the latter than the latter than

north of deep adit cross-cut, are making good progress, but their of the ends calling for remark.

SOUTH TOL JARNE.—Wm. Rich, James Knotwell, April 24: In the boar shaft we have water in the bottom, which is likely to retard the sinking. We see in a few days whether it is likely to drain off or not.

ST. PATRICK.—W. Francis, April 24: I am glad to report the two cross are progressing fast, with every favourable indication which has lately presided. The cross coorse is undiminished in strength and size at the 120 yardiand the compounds are of the best bearing description.

TANKERVILLE.—Arthur Waters, April 25: Watson's shaft is now 11 fm. TANKERVILLE.—Arthur Waters, April 25: Watson's shaft is now 11 fm. Tankers, 192; the ground continuing to be favourable. The 192 west (now 2) that the property of lead ore per fall.

The said lode is at present making a bend to the north of west (say) 25, instant bearing as previously 20° to the south of west; but as this apprent frait brought with it increased productiveness, we do not object to it at all. There is not course of ore to be seen in the bottom of the drivage here close up to blein a rich course of ore to be seen in the bottom of the drivage here close up to blein 12 fms. west of shaft, is going down in a wide lode, and worth for width carried 114 fon per fathom. The stope in the back of this level is worth 1½ to 2 tens is fathom. The 192 east of shaft is worth ½ to per fathom. The winze below the level 2 fms. east of shaft is going down in a strong orey lode, and worth six up per fathom. The stopes throughout the mine are yielding ore as for some pass. The 100 tons of lead ore soid to-day realised 1082. 10s. We are in a past ton to deliver the whole of the said ore immediately.

TEMPLE—April 24: No. 1 level is infproving in appearance; the lode is seen in the levels above, it is expected that lead will soon be found here. So, as last reported. No. 3 has greatly improved, and continues to produce leaf increasing quantities as the level proceeds into the mountain. The tramwyl No. 3 is complete, and that in No. 3 will be completed during the next we mad, if the present into weather continues, the tramway to the floors will also finished in a few days.

TRELEIGH WOOD.—William Goldsworthy, April 15: In driving the west of engine-shaft, the lode is worth 12. per fathom, and likely to improve a them of the produce of the superior of the lode in the weather continues. In the tramwy to the floors will also finished in this direction. The lode in the winze below the 44 is worth 18. In the producing a first part of the lode is the producing a little tin, but not each the most take it down to prove the same. In the 4 west we have described to value. We have cleared up Reel's bottoms, and find the lode 2½ ft. wide, worth 9f. per fathom. No other change to notice this week.

ALE OF CO ed on as fast EST CHIVE

APRIL 2

WEST WHEA ing the eastern a three men and the course of a week we have had two WHEAL GRE

160 at the we ommunicated per fathom. M. per fathom.

8 t. below the 1:

work for tin. Ti

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ward with utmos

WHEAL KITT

Shaft—Pryor's L.

worth for tin 71.

wide, and worth

shaft, is 8 t. wid

unther improven further improven wide, and worth shaft, is 2½ ft. driving west of althe 65, driving well Lode: The lode in stones of tin. stones of tin. Th WHEAL NEW without any mate

WHEAL PEE

ALE OF CONWAY.—J. Roberts, April 24: I am very pleased to state that I se never seen the mine look as well as it does now. The lode in the forebreast the No. 3 is 3 it, wide, with fine ribs of lead throughout. The lode in the stope we looked as well—a fine lode from top to bottom. The part we are now working to worth 15 ton of lead per fathem. We have driven up the No. 3 to within ms. of the lead ground, and the lode is becoming large and well defined, and as seenial as can be for the production of lead. The stope in the bottom of the seenial scan be for the production of lead. The stope in the bottom of the stem is improving as we advance towards the lode gone down in the bottom, there is improving as we advance towards the lode gone down in the bottom, the could scarcely have turned out, from the time we communicated, better than as done. It is just exactly 12 months since we commenced operations, and as done. It is just exactly 12 months since we commenced operations, and are returns, and I am sure the shareholders have great reason to congratulate ar returns, and I am sure the shareholders have great reason to congratulate are returns, and I am sure the shareholders have great reason to congratulate are returns before arriving at the point that we have arrived at, and I would not be shareholders to stick to their shares, feeling assured that in due season will gather in an abundant harvest.

melves on the success of the mine.

In this content is the state of th

normal particles and filled with 20, south-east upon No. 3 vein, the lode is 2 ft. wide, and filled with no 20, south-east upon No. 3 vein, the lode is 2 ft. wide, and filled with no particle our machinery is in good working order. Dressing is progressing trably:

No. sinking at Wilson's engine-shaft, by 8 men: lode 8 in. wide, good quality 80, sinking at Wilson's engine-shaft, by 8 men: lode 8 in. wide, good quality 30, sinking at Wilson's engine-shaft, by 8 men: lode 8 in. wide, good quality instaff —distance worked, 1 ft. 6 in., producing tin. These men are sinking for rs and cistern. The 80, driving north, by eight men; the lode is 8 in. wide, some and boy; the lode is 1 ft. 6 in. wide, worth 2t. per fathom for tinne driven II fus. 1 ft. 6 in. There is another part of the lode standing east eshaft, and will form a junction with the part we are driving on in 3 fms. or a.—Wilson's Lode: The 70, driving sught men; lode 5 ft. wide, hill per fathom—the distance worked is 10 fms. 5 ft. 3 in.; producing thin, 10 per fathom—the distance worked is 10 fms. 5 ft. 3 in.; producing thin, 10 grating east, by four men; lode 1 ft. wide, low-priced tinstaff—distance of 4 fms. 5 ft. 9 in. I think there is more lode standing in the north side,—I fole: The 60, driving west, by one man and one boy; lode small—distance ed. 4 fms.—Caunter Lode: The 60, driving north, by two men; the lode is 3 ft. 6 in. wide, composed of low price tinstaff—distance worked, 16 fms. 1 ft.

Wilson's Lode: The 60, driving west, by two men; the lode is 3 ft. 6 in. wide, composed of low price tinstaff—distance worked, 16 fms. 1 ft.

Wilson's Lode: The 60, driving west, by two men; the lode is 3 ft. 6 in. wide, worth 30 per fm; distance worked, 16 fms. 1 ft.

Wilson's Lode: The 60 west, to be a ft. wide, worth 30 per fathom—distance worked, 16 fms. 1 ft. wide, worth 30 per fathom—distance worked, 16 fms. 1 ft. wide, worth 30 per fathom—distance worked, 16 fms. 1 ft. wide, worth 30 per fathom—distance worked 1 fm., progressing this leaves in men; the lode

pper ores.
e, April 24: Wilson's lode, in the 70, driving west, is producing a little an when last reported on, and improving in appearance. The mensting down the sides of this level are breaking some very good tinstuff, laces are just as last reported. We sold yesterday 5 tons 14 cwts. 3 qrs., at 34'. 15s. per ton, value 199'. 14s.

is other places are just as last reported. We sold yesterday 5 tons 14 owts. 3 qrs. bs. of tin, at 34. 15s. per ton, value 1991. 4s.

WEST PATELEY BRIDGE.—David Williams, April 25: No. 2 shaft is down Ims. 5 ft. below surface; the veln in the bottom fully maintains its size and les. I hope to be down for a 32 fm. level next week, when we shall immediately live east and west upon the vein to get under the ore ground going down in the of the 20. In the 20 fm. level east the vein is 3 ft. wide, and producing good ness of ore. No. 1 stope in back of level, by four men; the vein is 2 ft. wide, set for level or 15 owts, per fathom.—Craven Cross Shafts: The north shaft is ared and secured to a depth of 27 fms. 4 ft. 6 in. below surface. The winze below 65 is down 5 fms.; the vein is 4 ft. wide, worth fully 20 cwts. of lead ore per thom. Other points underground without any change to notice this week. On face we have made three new ponds for storing water for dressing purposes, dare getting on well with the fourth. The new carpenters' shop has been comted, and we have commenced sawing this morning with one of Robey's imved circular saw benches. Grating and dressing are regularly carried on, and when the surface of ore ready for smelting very soon.

WEST ROSK BAR.—H. stephens, W. Bennetts, April 25: There is no change to the more forward but for the late wet and boisterous weather. We shall be charing next week heaving in the engine.

such mes downer of the roof is being put up to-day. This would have been such more forward but for the late wet and boisterous weather. We shall be repring next week heaving in the engine.

WEST TANKERVILLE.—A. Waters, April 25: The '86 south of shaft is now site a strong fine-looking lode, worth 1½ ton per fathom. The stopes in this release worth together 1½ ton per fathom. The 75 south has improved a little his week, now worth ½ ton per fathom. The stope in the bottom of the 63 south of worth logether 3 tons per fathom. The stope in the bottom of the 63 south of winze, south of shaft, is worth I ton per fathom. The stope north of winze. The worth logether 3 tons lead ore, realising 311, 17s. 6d.

WEST WIESAL TOLGUS,—April 24: Taylor's Shaft: The clstern is fixed elsow the 145, and the standing lift is now being sent down, which we expect will edow in its place by to-morrow morning. The lode in the 145 end west is riceling. We have not seen anything of the south part of the lode yet. We are coking out for the intersection of the south lode with the north, when we expect mile provides to be getting better. The lode in the 115 end west is not quite 1 ft. side, and contains very little ore. We have not sent yet. The lode in the 125 end west is not quite 1 ft. side, and poor.—Richard's Shaft: The lode here is from 3 to 4 ft. wide, with a little ore in it, and at times good stones of ore, but not enough to value. The lode wet is, and quite 1 ft. side, and poor.—Richard's Shaft: The lode here is from 3 to 4 ft. wide, with a little ore int, and at times good stones of ore, but not enough to value. The lode wet we want of we, and the ground better.

WESL AGAR.—E. Moyle, Wm. Hambly, April 15: The engine-shaft has

the 68 west is small and poor. The lode appears to be getting larger as and a dwest, and the ground better.

WHEAL AGAR.—E. Moyle, Wm. Hambly, April 15: The engine-shaft has see sunk during the past month 1 fm., now about 3 fms. below the 208; set to see men, at 46. per fathom. Sinking and stoping on Waddington's lode, north shaft, by 24 men, at 9s. 6d. per ton, the lode varying in value from 80% to 00, per fathom. Driving the 208 east, on Waddington's lode, by six men, at 5, est fathom—the lode is worth 10%, per fathom. The stope in bottom of the constant of the stope in bottom of the staft. Der fathom: this we have to drive about 1 or 2 fms. to cut the decomposed mainte, when we shall rise to meet a winze below the 170. When done this will callate the ground and give us good footway, independent of the shaft. Sinking the eastern shaft below the 25, by three men, at 14%, per fathom. We have

my particular change in the mine since the meeting held on the 11th inst. The mine, we are pleased to say, still continues to open up well, and all the bargains in operation on the south lode are producing their usual large quantities of tin, thus enabling us to keep un our returns of 9 tons per week, which was the result of the past 16 weeks' working.

WHEAL UNY.—Wm. Rich, M. Rogers, April 29: The lode in Hind's engineshaft, sinking below the 100, yields low quality tinstaff. The 160 end, east of Goodinge's, is without material alteration since our last report. The 160 end west is worth 10. per fathom. We have intersected a small cross-course in the 150 end west, which has disordered the lode; the end is now worth 20. per fathom. The rise in the back of the 150 is worth 20. per fathom. The 150, east of King's, is worth 7. per fathom. The 140 east is worth\(\frac{1}{2}\), per fathom. The rise in the 60 west is worth 8? per fathom.

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for March is 16. They have consumed 1484 tons of coal, and lifted 11 1 million tons of water 10 fms. high. The average duty of the whole is, therefore, 50,600,000 lbs. lifted 1 ft. high, by consumption of 112 lbs. of coal. The following engines he

eded the average duty:—	
Mellanear-76 inMillions	60.5
Mellanear-Gundry's 80 in	59.8
West Basset-Thomas's 60 in.	51.1
West Wheal Frances-58 in	56 2
West Wheal Seton-Harvey's 85 in	68.8
West Wheal Seton-Rule's 70 in	66.0

FOREIGN MINES.

West Wheal Seton—Harvey's 55 in. 68-9

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, April 17 (by mail from Madeira): Produce eight days, first division of April, 750 olts.—2718.; yield, 6 (olts. per ton = 7 5 olts. by old measurement.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, April 17 (by mail from Madeira): Produce eight days, first division of April, 750 olts.—2718.; yield, 6 (olts. per ton = 7 5 olts. by old measurement.

Fore has been derly—Letter from mine captain, March 26: General Remay in the result of the control of the contro

one being treated.

ANTIOQUIA (Frontino).—Advices from the manager, dated March 13: Mine stand expenses in London and Medellin for February, 404.: produce 61% ozs. gold. from 85% tons of ore (average yield 14 dwts. per ton), value 1:01.: showing loss of 2341. The dry season has prevented the mill from stamping all but a very mill case if yellow of ore.

of gold. from 8514 tous of ore (average yield 14 dwts. per ton), value 1:01.: showing a loss of 2341. The dry season has prevented the mill from stamping all but a very small quantity of ore.

NEW QUEBRADA.—The directors have received advices to the end of March, reporting the departure from Tucacas during that month of the ships Edith and Native Pearl, with cargoes of 400 and 330 tons of ore respectively. The W. H. Tucker was loading, and two other ships expected during April. The directors add that the Laura, with a cargo of 330 tons, arrived at Swansea on the 20th inst.

BUUE TENT.—D. T. Hughes, March 30: I have just returned from exploding another excellent little blast at 7:30 p.m. with 30 kegs of powder at South Yuba Mine. The pipe-clay mentioned last month has proved a more serious obstacle than at first anticipated, but to overcome the difficulty we have taken nearly all the hands from the Gopher to the South Yuba, otherwise this would have interfered much with our washing, and would have checked our progress for several weeks to come in the latter claim; as it is we are making satisfactory head way. We are washing still in the Gopher in order to be able to use the water, but it requires only a few hands to keep the sluice running. We are running at Blue Lead as usual, and intend to clean up next week. It has rained every day during the past week, and we have a large stream of water in the Blue Tent Canal.

PROVIDENCIA AND NEW ROSANIO.—Extracts from Mr. Cummin's letter, dated March 15: Although I am unable report a favourable change in our lodge, the reason is due in a measure to the little progress that we are able to make in so short a time as a fortnight; the ground at all our points of operation is exception-ally hard, as will be observed by the setting. The 8 in Miguel winze has now been sunk about 16 varas (about 42 feet); the lode is extremely poor, yielding no ore at all for the present; yet I have a good opinion of the working, owing to certain indications that we have been able to note during to the hardness of the lode, and the constant changes, the lode being better on some days than it is on others, the amount of ore that we are extremely small. The lode in the 8an Miguel north level is particularly the men have not been able to drive more than 34 vara. In order to thanging-wall of the lode without orose-outling, we have been gaining the dually eastward; in doing so we met with lead, which has gradually in quantity. It is now 1½ vars wide (4 ft.), and atill holds towards the we have no wall as yet. The lead carries a little native silver in places, the whole, a very low-quality ore; a little water is roming our from the of the end, and ought to indicate an approach to easier ground. The cfor the fortnight amounts to 22½ cargas (3 tons), worth about \$8.8 per have two bars of silver, weighing 129 mes., to be forwarded to the mint.

MINERAL HILL.—Mr. Plummer, March 30: Queen Tunnel: Progreeks 5 ft. 9 in., making a total of 27 ft. 9 in. for the month.

week 5 ft. 9 in., making a total of 27 ft. 9 the tunnel is without change.—Star Min this week have broken the usual quantity of 40 tons of \$75 ore. I think we are imports to be a superstant of the superstant of residue the ground and give us good footway, independent of the shaft. Sinks git he ease and shaft below the 25, by three men, at 1st, per fathorm. We have he we have a fast below the 25, by three men, at 1st, per fathorm. We have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key or two we shall begin to fix the same. During the past month we have he key to the same to convenient, but purpose doing so in the begin in force and the same to the sa

PESTARENA UNITED.—Thos. Roberts, April 18: District of Pestarena: I am pleased to report that we have resumed the mills in No. 1 department: we are not working at this district it onlist, one beging under repair.—Mine: The lode in the provided of the pro

NEW METHOD TO PREVENT OVERWINDING .- The recent over-NEW METHOD TO PREVENT OVERWINDING.—The recent overwinding catastrophe at Blantyre, whereby six miners lost their lives, has been the means of a new method having been discovered to prevent similar calamities. This invention, which has just been completed at Greenfield, Hamilton, is on a principle altogether different from the self-acting, safety-detaching hooks, and if it carries out the promise of the model it is certain to take a high position among mining inventions. Assuming that by some anotient the engine has become unmanageable, or that the engine keeper were to leave the engine altogether, the cage, when it goes 3 ft. above the landing stage at the pit-head strikes an apparatus which at once throws the engine out of gear, and at the same time puts a brake on the winding-drum of pirns, as the case may be, sufficiently strong to hold the cage in position, and this without doing any injury whatever to the machinery. The invention is a joint one, being the work of Mr. Dunlop, manager at the engineering works of Taylor and Henderson, Greenfield, Hamilton, and Mr. Scott, iate colliery manager for the Coliness Iron Company at Barrongill, a gentleman who is already well known as an inventor of a number of useful mining appliances.

known as an inventor of a number of useful mining appliances.

THE MINERAL WEALTH OF WALES.—A lecture on this subject was delivered on April 25 before the Society of Cymmerodorion, at the Freemasons' Tavern, by Prof. RUDLER, of Aberystwith. The Rev. Robert Jones, Vicar of All Saints, Rotherhithe, occupied the chair, and there was a large attendance. A large map of Wales, showing approximately the distribution of useful minerals, was hung upon the walls, and there was also exhibited a huge table, showing the quantity and value of the minerals raised in Wales during the last en years. The lecturer remarked to those assembled that Wales drew the elements of its material wealth almost entirely from the earth, either from the soil or from the soil or from the soil or good the Principality was, be thought, exceedingly opportune at the present commerciul crisis. If the depresend condition of our mineral industries was to be ameliorated it was to science they must look for means of improving the methods of extraction and production. Although coal was abundant in Wales, yet by far the larger part of the country was composed of rooks in which a man might continue to dig till doomsday without being able to sacceed in finding even so much as a shovelful of coal. Having described the coal fields of South Wales, the lecturer said: Among the metallic minerals which contributed largely to the wealth of Wales, ores of lead held a high place. It was by the enormous revenue of the sliver-lead of the Cardigunshire mines that Sir Hugh Middleton was enabled to execute the great works. held a high place. It was by the enormous revenue of the silver-lead of the cardiganshire mines that Sir Hugh Middleton was enabled to execute the great work of bringing the New River to London. These mines were next worked under a patent from Charles I. by Bushel, who showed his gratitude, when evil was broke out, by raising a regiment of miners for the King, and advancing 40,000. The lecturer next referred to copper, of which the most important deposit lay in Anglesey. In 1876 the amount of copper ore raised was 3897 tons, which yielded 114 tone of metal, of the value of 9396. As regards gold, it was certain the gold mines of Britain had excited the cupidity of the Roman conquerors. In the year 1876, however, only one mine appeared to have been worked for that metal—the Clogau, which yielded 288 ozs. 1s dwts. 6 ges. of gold, of the value of 11194, After a brief alluviou to the non-metallic minerals, the lecturer insisted on the value of selentific training to those who were about to take part in the derelopment of our great mineral industries. As long as they were buoyed up on the high tide of commercial prosperity, and as long as high prices were ruling the market, and a wide margin of profit was left to the producer and manufacturer, so long, perhaps, they could afford to snap their ingers at science and cling to this old-fashioned methods, however extravgant. But when the tide turned, and manufacture were declining, and trade was obbing from their shores, it behoved them to learn from science whatever she might have to teach as to the value of the market also great commercial crisis, and the best hope of the future lay in an intelligent appreciation of the value of scientific knowledge. If Great Britain were to retain its commercial supremacy it must be by means of improvements in her methods of developing those vast natural resources which she has still at her command.

mmand.

MORE CURES (this week) BY DR. LOCOCK'S PULMONIC WAFERS. "Coughs, colds, consumption, asthum, and bronofrial affections are quistly smally removed by them." From Mr. Morris, 13, West Derby read, Livery They task pleasantly. Sold by all drugglets at la. 1/4. and 2s. 51, par box.

APRIL :

* With this week's Journal a SUPPLEMENTAL SHEET is given, With this week's Journal a Supplemental Sheet is given, which contains: Original Correspondence: Colliery Explosions; the London Coal Supply (W. J. Thompson); Explosives—Dynamite; Halkyn Deep Level Accident (J. Ashworth); the Roanhead Rock-Drill (Raimon Barnes and Co.); Air-Compressors, and Rock-Drills (Rennedy Brothers); Rock-Drills (Hathorn and Co., H. Waddington); Air-Compressing Machinery; the Virneberg Mine, on the Rhine, in Germany; the Tharsis Salphur and Copper Company; Canadian Mining Notes—No. 1; South Aurora Mining Company (J. Richards); Mining at Lake Buperior; Tasmanian Tin Ores (R. Tredinnick; Richmond Mining Company (H. Powell); the Tin-Plate Trade; Gold Frauds in Scotland (D Gemmell); Mineral Resources of Ireland—County Clare (J. Ryan); the Fist Measures of Denbigh-hire; South Condurrow Mine; Does Mining Pay? (R. Symons); Devon Great Consols (R. symons); Miners' Strike, and the Five-Weeks Month (T. Gregory); the Five-Weeks Pay; Practical Mining—Payment of Miners; Mining Anomales; the South ambrian Mine (A. Francis); Reminiscenses—No. 1; East Caradon, and Other Mines; Wheal Peevor, Kingston Consols Mine (W. Hancock: Wheal Newton (Tredinnick and Co.); A Short Review of the Cardiganshire Mines—No. III. (A. Williams); Cardiganshire Mines and Mining (A. Francis); New Tyllwyd Mine—Mismanagement (A. Francis); "Testimonials" (R. Symons); Registration of New Companies; Meetings of Linares, Fortuna, Alamillos, Bailen, West Wheal Scton Companies, &c.

TO THE METAL TRADE.

FOR COPPER, TIN, LEAD, &c., apply to-MESSES. PELLY, BOYLE, AND CO., SWORN METAL BROKERS, ALLHALLOWS CHAMBERS, LOMBARD STREET, LONDON.

The Mining Market: Brices of Metals, Ores, &c.

	ASA TITUE 7
	MARKET-London, April 26, 1878.
IBON. & s. d. & s. d	TIN. & s. d. & s. d
Pig, GMB, f.o.b., Clyde 2 11 0	English, ingot, f.o.b 66 10 0- 67 0 0
Bootch, all No. 1 2 11 6- 3 10 0	
Bars, Welsh, f.o.b. Wales 5 26-5 50	,, refined 69 0 0
in London. 5 15 0	Australian 61 15 0- 62 0 0
Atafford 6 15 0- 7 10 0	Banca 64 0 0- 65 0 0
in Tyne or Tees 5 10 0- 5 15 0	Straits 62 0 0
Bwedish, London 9 10 0	COPPER.
Rails, Weish, at works., 4 17 6- 5 0 0	Tough cake and ingot. 68 0 0
Sheets, Staff., in London 8 5 0-8 10 0	Best selected 69 0 0- 69 10 0
Plates, ship., in London 6 15 0- 6 17 6	Sheets and sheathing. 72 0 0-
Hoops, Staff 7 15 0- 8 0 0	Flat Bottoms 75 0 0-
Mail rods, Staff, in Lon. 6 10 0- 7 0 0	
Mail 10de, Death in mont o 20 0	
STEEL.	
English, spring	Outer brands minimum or
. cast	Chili bars, g.o.bnom. 62 0 0- (nom.)
Bwedish, keg14 0 0	PHOSPHOR BRONZE.
. fag. ham15 0 0	Bearing metal £112 0 0
LEAD.	Other alloys £120 0 0- 140 0 0
English, pig, common17 0 0	
T P 17 5 0-	Brass.
W R 18 0 0	Wire 7¼d 7¼d.
sheet and her 19 5 0-	Tubes 7½ - 7½
mine 10 0 0	Sheets 8 - 834
mod 19 15 0	
white24 10 0-26 10 0	Yel. met. sheath. & sheets. 6
natent shot 23 0 0-	Nails composition 814 - 9
	TIN-PLATES.* per box.
Spanish16 15 0	
NICKEL.	Charcoal, 1st quality 1 0 0- 1 1 0
Metal, per owt18 0 0-20 0 0	,, 2nd quality 0 19 6- 1 0 0
Ore, 10 per cent. per ton.24 0 0-26 0 0	Coke, 1st quality 0 16 0
QUICKSILVER.	,, 2nd quality 0 15 0
Flasks of 75 lbs., ware. 7 0 0	Blackper ton 16 0 0- 16 10 0
SPELTER.	Canada, Staff. or Gla., 11 10 0- 12 0 0
Bilesian 18 0 0- 18 5 0	at Liverpoor
Bratish Sannana 91 0 0-	Black Tograms 450 of)

English, Swansea 21 0 0 - - Bheet zino 22 0 0 - 23 10 0 Black Taggers, 450 of 30 0 0 - -At the works, is. to is. 6d. per box less for ordinary; 10s. per ton less for mada; IX 6s. per box more than IQ quoted above, and add 6s. for each X. rne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—Easter week is not expected to be, and seldom or never is, very prolific of much business, and this year it has certainly not formed any exception to the general rule. Public holidays always will cause some interference to ordinary business, but they should be strictly confined to the appointed time; however, if an occasion ever presented itself when an extension could be safely made with little inconvenience, the present has undoubtedly afforded a favourable excuse for such deviation, but it should not be used as a precedent for the future, as the sluggish condition of our markets is in great measure owing to a combination of exceptional circumis in great measure owing to a combination of exceptional circumnear the sate own go a combination of exceptional circumstances, and which we trust they will never occur again. Many merchants and manufacturers have availed themselves of the opportunity of keeping holiday for a few days longer than they would otherwise have done it trade had been better. Any stoppage, however, at the centres of manufacture is sure to react upon our markets, and they soon come to a dead-lock upon a cessation of the regular consumption. A less of a week's consumption in the results in the said. and they soon come to a dead-lock upon a cessation of the regular consumption. A loss of a week's consumption just now is material on account of the continual addition to stocks, which naturally tends to a depreciation of value, and since prices have continued their downward course for so long a time, sellers as well as buyers have lost all confidence in the metals they deal in, and dare not venture to anticipate enhanced prices until the great and all-absorbing political problem of the day is finally solved, but unfortunately nothing as yet has transpired to lead to the conclusion that a speedy settlement will be arrived at; on the contrary, the opinion seems to spread that war will ensue. to spread that war will ensue.

increased demand is very much wanted from some source or An increased demand is very much wanted from some source or other, and although most people are apprehensive that the announcement of war would rather tend to limit the demand, at least temporarily, and reduce prices, yet there are others who think that as the home and shipping trades are already so extremely limited they could not be further contracted more than momentarily, they could not be further contracted more than momentarily, whereas the additional requirements for war purposes would more than compensate for any slight falling off from other quarters, and so eventually turn out a real advantage to the market. Nevertheless, if the permanent advantage of the markets is considered, there cannot well be two opinions in regard to the value of a temporary increased demand for war purposes compared with that arising from the due development from peaceful industrial and commercial from the due development from peaceful industrial and commercial pursuits. The one may create a sudden and pressing demand, but would probably just as suddenly cease, and without accomplishing any solid and lasting benefit to anybody; while a demand from legitimate sources would enable all to join and share in its benefits. Before any expansion of trade can take place, or operations for investment or speculation are entered into, there must come first the restoration of confidence, and the spirit of enterprise will follow in

due course.

COPPER.—The market is dull, and lower prices have been accepted. Chili bars are fluctuating about 62l. Manufactured and yellow metal very dull.

IBON.—Quiet. English bars, 5l. 15s.; Belgian, 5l. 5s., ex ship, Swede bars of Indian assortment sold at 9l. 10s.—3 × \$ procurable about 5s. per ton less. Scotch pigs 51s., cash.

SHIPMENTS FROM SCOTLAND. For the week ending April 21, 1877	10,020 9,513
Decrease	507 7,457
For the week ending April 20, 1878 Tons For the week ending April 21, 1877	5,888 5,020
Increase	868

LEAD unimproved, and prices easy; 17% for common brands SPELTER without change; inanimate and drooping.

TIN lower in value, and no confidence exhibited in the market, TIN-PLATES unsettled; a meeting of manufacturers took place last Tuesday, for the purpose of reducing the make, but there was only about half the trade said to be represented, and nothing decivire could be agreed upon. Trade combinations are bad in principle, and never work well long together; independent action is by far the most honourable and business-like course to adopt, and will be found to work best in the end. Some of the makers are loud in be found to work best in the end. Some of the makers are loud in their complaints against the Welsh bankers in giving such great facilities to small works, and insisting upon production being maintained; if this is so, the bankers are naturally carrying on the works to the prejudice of the majority of tin-plate manufacturers; but

such artificial bolstering up seldom lasts long; at the same time, it is very unsatisfactory and ominous.

a drooping tendency.

Messrs, Pixley and Abell.—Gold: A few small orders for export to India and the Continent have not only absorbed the small arrivals we have to report, but also 110,000% in bars and coin withdrawn from the Bank; on the other hand, 70,000% in sovereigns from Egypt have been sent in. The shipments of gold from America now on the way will to a great extent prevent further recourse to the Bank. We have received 111,500% from New Zealand, and about 70,000% from Alexandria. The P. and O. steamer takes 100,000% to India, and the Mondego, 50,560%, to the Brazils.—Silven: The market has been very quiet in consequence of the holidays, both here and in India; the arrivals, which from all parts only amount to 32,000% during the week, have been sold at 54d, per ounce, but we do not consider this quotation as a firm one. The P. and O. steamer takes 13,000% to Bombay.

to Bombay.

Messrs. Fry, James, and Co.—Copper has continued to be little enquired for, and transactions have been on the smallest scale. The tendency of prices generally has been to keep steady, but Chilian is about 10s. per ton lower.—Ison is without quotable change.—This has been flat and drooping for a fortnight past, and foreign brands are fully 20s. a ton lower.—Lead continues heavy, but without noticeable change.—Bexelters is without change.—This Plates are slightly influenced by the proposed reduction of output by all the manufacturers.

Very little business has been transacted in the MINING SHARE MARKET this week, owing chiefly to the Easter holidays, and the absence of many of the dealers. The mines chiefly dealt in have been South Condurrow, Wheal Grenville, D'Eresby Mountain, D'Eresby Consols, East Van, Leadhills, East Caradon, Rookhope,

D'Eresby Consols, East Van, Leadhills, East Caradon, Rookhope, Tankerville, and few others.

TIN MINES, with one or two exceptions, continue flat, and the little excitement of a fortnight ago seems to have entirely passed away, and just at present an early rise in the metal is scarcely hoped for. South Condurrow continue in fair demand, and leave off 11 to 11½. Wheal Grenville, 3½ to 4; Carn Brea, 41 to 43; Cook's Kitchen, 1½ to 2; Dolcoath, 29 to 31; Penstruthal, 4s. to 5s.; Tincroft, 10½ to 11½; West Godolphin, 1½ to 1½; Wheal Agar, 4 to 4½; Wheal Jane, 1 to 1½; Wheal Kitty (St. Agnes), 1½ to 2; Wheal Peevor, 6½ to 6½; Wheal Uny, 17s. 6d. to 20s.; West Frances, 2½ to 3; East Pool, 9 to 9½; South Crofty, 7 to 8; West Basset, 10s. to 15s. COPPER MINES show very little change. At the Cornish Ticketing, on the 18th, the standard declined 1/. The average price of the ore was 3/. 7s. 6d. per ton.

ing, on the 18th, the standard declined it. The average process are one was 3l.7s. 6d. per ton.

West Seton, 10 to 12; at the meeting the accounts, as presented, showed a profit on four months' working of 662l., after crediting ores unsold 1750l., and a dividend of 15s. per share was declared. The copper ore credited was estimated at 3523l.; tin, 3143l.; and arsenic, 418l. The agent's report states that the lode in the 160 west

ores unsold 1750L, and a dividend of 15s. per share was declared. The copper ore credited was estimated at 3523L; tin, 3143L; and arsenic, 418L. The agent's report states that the lode in the 160 west was 6 ft. wide, yielding good stones of copper, and worth for tin 16L per fathom. East Caradons have been enquired for, and leave off \(^1\) to 1. At the meeting a call of 2s, 6d. per share was made. Devon Great Consols, 2\(^1\) to 2\(^3\); the 848 tons of ore sold for the sum of 1779L 5s. 6d. South Caradon, 75 to 80; the sale here 480 tons only realised 2233L 17s. Prince of Wales, \(^1\) to 3\(^3\); at the adjourned meeting a call of 2s. per share was made, and a resolution passed to coatinue the adit on the silver lode. Parys Mountain, 8s. to 10s.; another small branch has been met with in the 90 cross-cut. Mellanear, 4 to 4\(^1\). West Tolgus, 6l to 63; this mine is improving, and a dividend of 30s. per share expected at the meeting.

LEAD MINKS have been chiefly dealt in, but even here very little has been done since our last. Roman Gravels, 8 to 8\(^1\); the 110 cross-cut, east from new south engine-shaft, has been driven 5ft., the first 2ft being in the wall of the Roman lode, and, as far as cut into, it shows spar and rich lumps of solid lead. The agent expects to flud the lode 10ft. wide at this point. The sale of ore, 180 tons, has realised 1918L for five weeks' working.

Ladywell, \(^1\) to 1\(^1\); the lead sold, 25 tons, realised 231L Tankerville, 4 to 4\(^1\); the 192 weets is worth 4 tons of lead per fathom. The 100 tons of lead sold at 10L 16s. 6s. per ton, or 1082L 10s. D'Eresby Mountain, 80 to 100; fine rocks of lead ore are being broken from No. 5 adit, 200 fms. north of No. 4 stope. D'Eresby Consols, 12 to 14. Clementina. 1 to 1\(^1\); the lode here continues worth 1 ton of lead ore per fathom in the adit level. Van has declined to 19, 21. East Van is weaker at 5\(^1\) to 5\(^1\); and you two water has been cut into, which is considered favourable. West Tankerville, 10s. to 15s.; the lead ore so

The Market for Mine Shares on the Stock Exchange has, in consequence of the Easter holidays and the continued political uncertainty, been excessively dull, the transactions which have taken place having been limited to a very few mines. The necessary resolutions for again reconstituting the North Laxey Mining Company were passed at the meeting on Thursday. The new concern is to consist of 30,000 shares, which are to yield 7223l in cash. The whole of the expenses of carrying out the arrangement of reconstitution, &c., as well as transfer, assignments, and so on, are to be borne by the new concern. The inducement offered for taking the 7223 shares at 1l, is that each is entitled to two bonus shares, so that the charges are really offered at 6s. 8d each; and further three that the shares are really offered at 6s. Sd. each; and, further, three of the present shares are exchangeable for one share in the new

Although the return to the calendar month system at Davon Great Although the return to the calendar month system at Devon Great Consols has met with some little opposition at the mines, the directors intend strictly to adhere to it. The strike at present extends to 150 only of the 700 employed, and this is readily intelligible when it is considered that the question does not affect any man who takes his bargain in the usual way of so much per fathom. In no other business than mining is the lunar month recognised, and that its sails have been manifest may be indeed of from the and that its evils have been manifest may be judged of from the fact that it is being generally abandoned. With regard to the strike, it has been penly stated by those competent to make the assertion that it is no disadvantage to the shareholders; the mine is making a loss every week, so that the longer the strike lasts, and the more widely it extends (assuming present prices for ores, &c., to continue), the greater will be the benefit to the shareholders.

But it is not the loss incurred by keeping the working miners en adventurers object to. There are far too many agents and officers the mines, and these are receiving far higher wages than are adventurers object to. There are far too many agents and officers employ the mines, and these are receiving far higher wages than are at whether considering the work done or the general wages scale of the dis understood that at the next general meeting, if not previously, this will be fully and impartially discussed—the consideration of relations a being entirely ignored—and it is confidently believed that equal efficience used with half the number of officers at two-thirds of present salaries. West Wheal Seton, 10 to 12; the shareholders are to be tulated upon the mine having again entered the Division.

tulated upon the mine having again entered the Dividend List, the distribution of 15s, per share having been resolved upon at the distribution of 10s, per shale having seen associated upon at he meeting on Monday. The mine, although it has been temporarily depressed, is acknowledged to be a good concern, as is indeed apparent from the fact that the shareholders subscribed 90,000, and having a speciment 222,000 in dividends. South Roskear has a reference to the contraction of the c have received 233,000%, in dividends. South Roskear has man

have received 233,000%, in dividends. South Roskear has made a call of 15s. per share. The rock-drilling machinery is reported to be working satisfactorily. Two of the directors have visited the mine formed a high opinion of Capt. Hosking, and are satisfied with his honesty and ability. Capt. Maynard has again been engaged to report on the mine. At Present the appears to be nothing whatever of any value in the mine, but the work of desired the mine would be imprudent to knack the mine without completing the trials at present being made by Capt. Hosking, and he reports that, on the whole, what has be and is being done by Capt. Hosking appears to him to be such as the adventures should be satisfied with, and likely to lead ultimately to good results.

New Quebrada, 1\frac{1}{3}\times to 1\frac{3}{3}\times a meeting of dissentient shareholder, convened for no definite object by Mr. Bird, was held on Thurday, but not more than 20 persons were present, and of these the greater number at first appeared disposed to support the director with the directors, and it was only possible to pass the resoluting at all (several declining to vote even then) by making it distinctly understood that the visit to the directors was to be of quite a friendly character. Mr. Bird's grievance was that he had been by fused permission to inspect the mines last year when in Venezuela, but he is mitted that the refusal was to him personality, and not to visitors generally and the total visitors generally and the total visitors generally and not visitors generally and the visitors described in the test of the directors was to be of quite a friendly character. Mr. Bird's grievance was that he had been by fused permission to inspect the mines last year when in Venezuela, but he is mitted that the refusal was to him personality, and not to visitors generally.

at all (several declining to vote even then) by making it distinctly understood that the visit to the directors was to be of quite a friendly character. Mr. Bird's grievance was that he had been not use the property of the company for Mr. Bird to go into the mines last year when in Venezuela, but he similated that the refusal was to him personally, and not to visitors generally. It was proposed that the indicated that the direct reconsidered it detrimental to be company for Mr. Bird to go into the mine, and Mr. Bird did not attempt to the that the suggestion was groundless. As an opposition meeting, that of finning was an undoubted failure. No representative of the company was present or most probably some satisfactory reason would have been given for Mr. Bird exclusion from the mine. It was pointed out that speculators agitations of the character of, though more successful than, Thursday's meeting had been the bane of the company, and that, although the delay in holding the general meeting might be a little annoying, it was probably necessary in consequenced pending negociations, and that it would be most unwise to think of any hostic proceedings at the present time. When the result of the explarations, &o., recemended by Mr. Darlington, and the reason for Mr. Bird's exclusion from the mine are known, shareholders may have more justification for giving the later gentleman their support.

St. John del Rey, 305 to 315; the latest telegram from Morn Velho, dated Rio de Janeiro, April 17, states that the produce far the first division (eight days) of April was 9750 oits., of the value of 3778L, the ley of the ore being 6 oits. per ton, equal to 75 oits per ton old measurement. Don Pedro, § to §. Captain Vivian reports that the lodes at the different points of operation continue to look equally as well as for some time past; the quality of the ore, however, has somewhat fallen of, which he presumes is only on these temporarry changes to which jaccting a mines are subject.

Santa Barbara, 1½ to 1½; the directors' re

gress made during the past year is 971 ft. less than that of the preceding year, which is due to the rocky and dangerous character of the ground tunnelled. The company has put 150 acres of their lad in a state fit for cultivation. The annual receipts amount to \$318,235; the disbursements to \$306,914, and the total cost of the work thus far has been about \$3,000,000. In a few months more the tunnel will reach the incline of the Savage Mine, and 1,295,000 gallons of water now flow from it daily.

the disbursements to \$300,914, and the total cost of the work the far has been about \$3,000,000. In a few months more the tunnd will reach the incline of the Savage Mine, and 1,295,000 gallons of water now flow from it daily.

The latest advices from the Richmond district state that care are multiplying on the lode, and scarcely a mine but what has one or more of these cavernous openings. The Richmond Company has recently broken into two, both of which contain ore in large quatities. The Eureka Consolidated has opened the largest one of the lode, of immense proportions. The K. K. has one on the thid level, the Jackson two, and the Connolly a medium sized one. On its always found in close proximity to these openings in the linestone, and many miners embrace the theory that they eventually fill up with vein matter, constituting the mould for ore bodies, and that the present deposits were filled in this way. In one of the caves at the Richmond ore was discovered encrusting the roof to a considerable thickness—a fact which has never before occurred in any of the numerous cavities in the limestone was discovered encrusting the roof to a considerable thickness—a fact which has never before occurred in any of the numerous cavities in the limestone on the hill. Or is always found on the floor, and sometimes on the side of the control of the cave and that the overal of the control of the cave and the control of the cave and the control of the cave and that the control of the cave and the control of the cave and that the control of the cave and the cave an

The Market for Hydraulic or Gold-Washing Shares has partici-The Market for Hydraulic or Gold-Washing Shares has parell in the general depression, and only a few transactions recorded. The news conveyed by the local papers is encouraging. Rain still continues to fall, and there is a greater extent of grave under operation than for some time past. Blue Tent, 3 to 3; washing progresses well. The agent reports that satisfactory headway is being made with the work at each of the three claims where operations of the still residue of the three claims where operations of the still residue of the three claims where operations of the still residue of the three claims where operations of the still residue of the still res rations are going on. It is still raining at short intervals, and the company's canal is bringing in a large stream of water. Oregon,

to 41; the ag idered as indi-esult is expec-company, of S result shows the "upper yard"
—and fully \$5
of gravel before
gravel as the u in the compar he car-load, b Hultafall, 5 ds continu ing out large machinery wheen two full erected in a very Very great credit work has been do Lead Mines necessarily refortnightly se Van, 19 to 21' is within a few 105 west is s and the 90 we per cubic fatl Grogwinion ampling of 1 winze below Valley are 23 out the mine cation has l laying open a since. Caron tion of the wmystwith, urther and 0 tons-will a. as the Pateley Br 2 tons lead er fathom, V elsewhere. 2 to 23; the evel is new athom. The

to notice. I Subjoined Vest Basset, Tankerville, ½
Argentine, ½to
29 to 31; Cedar
Don Pedro, ½
Flagstaff, ½ to
1-16th to 3-16th
New Quebrada
Plumas Eurek
dated 9½ to 9. COLLIERI alackness ha

state of trad especially wabout, many of hardly go low from supplying thire:—"Taki

shire:—"Taki for the better; The mills in t the holidays th is every likelih look forward t At Liverpool neighbourhood established in of a million has acquired them and coal is kno the market; in coal. The cap annum are con Chapel House cability that t rom a broker' are correct;—' new engines m
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roperties c rove as the mine, as all offer in the placed on t will reach a ciously man open, and is over estimated and we have given to most aban monget the

> DEATH OF his week to 53rd year. chants' office purser of a Cornwall ar in which he various min brother's (M and the abl

parcel of ore will be ready for smelting very soon.

Subjoined are the closing quotations:—
Asheton, ¼ to 1½; Carn Brea, 41 to 43; Devon Great Consols, 2½ to 3; Dolcoath, 29 to 31; East Caradon, ½ to ½; East Van, 5½ to 5½; Glenroy, ½; Consols, ¾ to ½; East Van, 5½ to 5½; Glenroy, ½; Great Larey, 17 to 19; Hingston Down Consols, ¾ to ½; Leadhills, 3½
to 4; Marke Valley ¼ to ½; Pary's Mountain, ¾ to ½; Pateley Bridge, 35
to 4; Penstruthal, ½ to ½; Roman Gravels, 7½ to 8½; Rochope, ½ to 1; Tankerille, 4 to 4½; Tincroft, 10 to 12; yan, 19 to 21; West Assheton, ¾ to 1; Tankerille, 4 to 4½; Tincroft, 10 to 12; yan, 19 to 21; West Assheton, ¾ to 1; Yest Chiverton, 11 to 13; West Pateley, 2 to 2½; West Tankerille, ¼ to ½; Wheal Grenville, 3½ to 4; Almada and Tirito, ¾ to ½; Strayes Creek, ¾ to 1; Bust Tent, 3 to 3½; Cape Copper, 20 to 1; Cetar Creek, ¼ to 3½; Colorado Terrible, 1½ to 2; Chontales, ¾ to ½; Don Pedro, ½ to ½; Erchardt and Aurora, 5½ to 6½; Exchequer, 2s. to 4s.; Tlagetaf, ¼ to ½; Frontino and Bolivia, 1½ to 2; Hultafall, 5 to 5½; I.X.L., 18th to 54; New Quebrada, 1½ to 15; Oregon Preference, 4 to 4½; Pestarena, ¾ to ½; Plumas Earcka, ½ to 8; Port Phillip, 7-16th so 9-16ths; Richmond Consolidated, 9½ to 9½; 8t. John del Rey, 305 to 315; Sierra Buttes, 1½ to 2; South Aurora, ½ to 9½; Sc. John del Rey, 305 to 315; Sierra Buttes, 1½ to 2; South Aurora, ½ to 5½; Tecoma, 1-16ths to 3-16ths.; United Mexican, 1½ to 2.

COLLIERIES.—Although in consequence of the holidays great slackness has prevailed in the various coal and iron centres, there

Collieries.—Although in consequence of the holidays great slackness has prevailed in the various coal and iron centres, there are not wanting in some quarters signs of improvement and a better state of trade. South Wales, Staffordshire, and Yorkshire are doing especially well, and in both counties there are numbers of orders about, many of which it is believed will come to business; in fact, as prices can hardly go lower, it is not to be wondered at if customers do not hold back longer from supplying their requirements. A contemporary writes respecting Yorkshire:—"Taking the West Riding altogether, there has undoubtedly been a change for the better; more men are employed, and full work has been more general. The mills in both plates and sheets have been turning out larger quantities up to the holidays than for a considerable time previously, and from appearances there is every likelihood of this state of things continuing. Our colliery-owners now look forward to a marked improvement."

At Liverpol slightly better prices prevail, and there is also an improved demand. Experience would lead us to believe that trade is on the eve of a decided improvement, and shares in good and well seceted coal and iron properties should, therefore, command attention. We hear the shares of the Yniscidwyn Company have been well taken up by iron and coal masters, and persons residing in the neighbourhood of the property. The collieries and ironworks are among the oldest established in the country, and have yielded enormous profits. About a quarter of a million has been spent upon them, and we think the present company has acquired them upon terms of most exceptional character. The quality of the iron and coal is known everywhere, and is such as to command the highest price in the market; in fact, the orders in hand show a profit of over 2s. per ton on the coal. The capital of the company is 60,000%, and profits at the rate of 11,000%, per annual are confidently anticipated and may be relled upon.

Chapit House shares have risen, and

West Pateley.—The various points of development continue to open out satisfactorily. The veins fully maintain former reported values. Each department is in vigorous working. Three new ponds have been made to store water for dressing purposes, and another is being made. Dressing of lead is being regularly carried on, and the manager hopes to have another parcel of ore ready for smelting very soon. smelting very soon.

BLAEN CAELAN UNITED MINES .- We are informed that these reperties continue to develope most satisfactorily. The splendid iscovery in the 20, estimated as worth 50% per fathom, has so far roved itself to continue both in length and depth; in fact, to improve as the results of the second se proved itself to continue both in length and depth; in fact, to improve as they go down. Very little publicity has been drawn to this mine, as all the shares have been allotted, and there are none under offer in the open market; in fact, considering the small capital placed on the mine—24,000/.—it is fully expected that the shares will reach a considerable premium. The mine is being most judiciously managed, inasmuch as no attempt has been made to force sales of ore; on the contrary, the ground is being extensively laid open, and in a short time the reserves of ore in sight will not be overestimated at 10,000/. Should these anticipations prove correct, and we have no reason to question them, an enormous impetus will be given to mining in the district, which until recently has been be given to mining in the district, which until recently has been almost abandoned, although history tells us they were at one time amongst the richest in the United Kingdom.

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DEATH OF MR. WILLIAM WATSON.—We deeply regret in having this week to announce the death of Mr. WILLIAM WATSON, which took place at his residence at Canonbury, on Easter Sunday, in his 53rd year. In early life he was in one of the largest foreign merchants' offices in Mark-lane. Afterwards he was for many years purser of some of the leading dividend and progressive mines in Cornwall and Devon, and we well remember the excellent manner in which he issued his reports and statements of accounts of the various mines under his charge. Latterly he had been in his brother's (Mr. Peter Watson's) establishment, at 54, Old Broad-street, and the able manner in which he has performed his several duties

APRIL 27. 1878.]

THE MINING JOURNAL.

10 4; the agent reports that as washing is progressing the gravel spopers to be improving in quantity. The last clean-up is considered as indicating the when the full clean up is made the indicated as indicating the same when the full clean up is made the indicated in this, and when the full clean up is made the indicated in the same when the full clean up is made the constitution of the same amount—and fully \$500 mag a very gard "contains three times as much agravel before or "lower yard" contains three times as much agravel before or "lower yard" contains three times as much agravel before years and the same amount—and fully \$500 mag. The same amount—and fully \$500 mag a very gard "contains three times as much agravel before years and the same amount—and fully \$500 mag." Lower yard "contains three times as much agravel before years and the same amount—and the magnetic propers on a single same and the same yard and the same and the propers of the same and the same

is believed, be useful for the collection and circulation of precise information with reference to objects exhibited.

The Belgian iron trade has been largely occupied during the last few days in completing its preparations for the Universal Exhibition at Paris. The Rodange Blast-Furnaces Company (Grand Duchy of Luxembourg) has decided on lighting one of its blast-furnaces towards the close of next month. M. Jochams, Chief Inspector of Mines in Belgium, has made public some statistics collected in illustration of the position of the iron and steel trade in Belgium in 1876. Seeing that we are now well into 1878 these statistics come rather late in the day, nevertheless it may be well to summarise them. Seeing that we are now well into 1878 these statistics come rather late in the day, nevertheless it may be well to summarise them. The whole number of ironworks in Belgium in 1876 is returned at 324, the number of men employed at 21,626, the production of pig at 571,267 tons, and the production of rough iron at 415,714 tons. The number of steelworks in Belgium in 1876 was 3, the number of workmen employed in these establishments was 1564, and the production was 75,258 tons. The value of the pig-iron made in Belgium in 1876 was 1,956,252l.; of the rough iron, 3,084,290l.; and of the steel, 625,651l. The quantity of iron minerals produced in Belgium in 1876 was 269,206 tons, of the value of 98,319l. More than half the iron made in Belgium in 1876 was from the Hainaut district.

THE CHEMISTRY OF THE SUN.-After an absence of several years Prof. Pepper has resumed his position as a lecturer at the Royal Polytechnic Institution, and from the hearty reception he had on his return it is evident that his ability to combine instruction with his return it is evident that his ability to combine instruction with amusement is not forgotten, and that his popularity has not in any degree diminished. His new lecture "On the Chemistry of the Sun" is a most attractive one, and his imitation of the phenomena seen during a total eclipse of the sun by the aid of the large glass screens used in producing the "ghost effects" is extremely ingenious.

NORTH WALES. CORNWALL. SHROPSHIRE. SOUTH WALES. DEVON. LINCOLN. NORTHUMBERLAND. DURHAM. LANARKSHIRE TURKEY (EUROPE). STRAITS OF MALACCA.

A PRACTICAL MINE INSPECTOR, who has Surveyed and Reported on Mines in the above places, is prepared to REPORT on MINERAL PROPERTY.

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5, Nicholas-lane, London, E.C.

THE ADVERTISER has just secured a VERY VALUABLE SILVER-LEAD 84TT, in which there are several rich lodes and thousands of tons of halvans that will pay 100 per cent. over working cost. Wants a gentleman to form a company or advance money to open and lay out the works. The amount will be small.

Particular from "Miner" MINING JURENIA Office 28. Fleet street London.

amount will be small.
Particulars from "Miner," MINING JOURNAL Office, 26, Fleet-street, London.

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THE EGLWYSEG EXTENSION SILVER-LEAD MINE, west side of Minera Mountsin, TO BE SOLD. Apply to Mr. 1 ver, Amiwch, North Wales; or Mr. Craven, Buckley, Chester to Mr. W. H. Richards, Mellor's Buildings, Exchange-street East, Liverpool.

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-CARBONATED AND OXYDED ZINC ORES (CALAMINE, &c.) 2.-ZINC AND LEAD ORES MIXED TOGETHER, BUT DRESS-

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See report in Supplement to Management See report in Supplement to Mining Journal, March 9th, also advertisement in Journal of March 16th.

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Edited and published by— ALFRED E. COOKE, 76, OLD BROAD STREET, LONDON

Date.		nes.		18.		rice	per	to	n.	Purchasers.
April	28-Foxdal	0	10	5	1	218	5	6		Weston, Son, and Co.
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	- di	itto	5	0		10	15	0		George Burr.
	- di	itto	5	0		10	12	6		ditto
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	-Tanker	ville	10	0	****	10	16	6	******	ditto
	-West T	ankervill	e 3	5		10	12	6		ditto
	-North	Laxey	2	0		11	12	6		Walker, Parker, & Co.
	-Great	Dyliffe	5	0		10	10	0	*****	Panther Lead Company

Mines.		ons.	F	rice	e. [Mines.	Ton		P	rice.	
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ditto	1		1	7	6	Levant	62		8	4	-
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Nevill, Druce, and Co				7	1
Williams, Foster, and Co	. 788	16	2598		
Mason and Elkington			857		-
Charles Lambert and Co	305	********	973	8	1
		,		_	-
	nana.		CORRE		

Copper ores for sale at the Tabb's Hotel, Truro, on Thursday next—Mines and parcels.—Mellanear 540—West Wheal Tolgus 300—East Pool 232—West Wheal Seton 204—South Wheal Crofty 137—Killifreth 77—Botallack 59—Carn Brea 43—North Buy 32—Wheal Comford 20—West Roskear 17—Wheal Unity Wood 3—Total (21 cwts.), 1653 tons.

* Much inconvenience having arisen in consequence of several of the Numb during the past year being out of print, we recommend that the Journal sho be filed on receipt; it then forms an accumulating useful work of reference.

BIR.—Would some reader kindly state what is the value of white lead ore before being crushed, and what is the expense of crushing per ton?—F. G. S.

MEW ZEALAND KAPANGA.—Your correspondent "X. Y. Z.," in last week's Journal, referred to a subject which is at present exercising the minds of a great many others.—What is to be the fate of the New Zealand Kapanga? Are its formerly reported bright prospects only clouded or discovered to be non-existant? Whave there been no reports published of late? Have the Chairman and directors not sufficient energy to raise the small sum which they say is only requisited thake the mine a success, or is there manipulation for the benefit of the few? Candour begets friends and assistance, secrecy begets suspicion.—G. B.

WEW CORPER PROGRS.—If "F. H. N." will apply to Thomas Tonkin, mining

might suit the interest of the company best. -VIGILANCE: Calington, April 24.

Received, -"F. V." (Hamilton, Nevada)-"A. S." (Christiana)-"Highland"

(Arizona)-"W.T. E." (Derby)-"Shareholder" (West Seton) objects to the declaration of the dividend, and disapproves altogether of Mr. Hule's "dictatorial proceedings"-"Shareholder" (Rossa Grande)-"C. H. A." - G. T."

"Shareholder" (Wheal Crebor)-"Subscriber" (Morfa-du)-"W. G."-"Tempus Fugit" (Richmond): The letter from the Secretary renders the publication of his letter unnecessary-"T. E. C." (Gunnislake)-"W. B. P." (Bristol): Next week-"T." (Kingaton Consols): See letter from Capt. Hancock, in another column -"Visitor" (Old Treburgett)-"Hail! Columbia" (Flagetaff).

THE MINING JOURNAL.

Railway and Commercial Gazette.

LONDON, APRIL 27, 1878.

THE PRICE OF COAL IN LONDON.

At the time when the collieries in all parts of the kingdom are working little more than half time, it is surprising to find the price of coal at this season of the year so high as it is, for it is even higher than it was a month ago. To the uninitiated the colliery owners are than it was a month ago. To the administrate the contery owners are supposed to be the gainers by this state of things; but such is not the case, for many of them are now selling lower than they did a month ago. We are, therefore, glad to find that Mr. T. W. Bunning, as secretary of the North of England United Coal Trade Association, has publicly drawn attention to the matter. He states that the metropolitan retailers charge from 10s. to 11s, per ton for seaborne coal over and above the price paid at the ship's side in the Thames. Quoting the price of the last market at 17s. 6d. per ton as the price for Lambtons as for best Wallsends, he explains that certain allowances are made which reduce the price actually paid by the coal mer-chants to 16s. 2d. per ton, and accuses them of taxing the public far too heavily. He considers that the price from the ship's side to the consumers' cellar should not exceed 8s., and never 9s. a ton; conconsumers centar should not exceed os, and never os, a ton, con-sequently 26s, a ton, the present price, is therefore by far too high a quotation, looking at the charges made to the merchants. Mr. BUNNING does not by any means overstate the matter, but to our thinking allows the merchants too large a margin, and this we are able to show from the sworn statement of the principal merchant in the Metropolis.

In the evidence given before the Select Committee on Coal in 1873. Mr. Sydnex Cockerrll was examined. The answer to Sir George Ellior (Question 7208) is as follows:—"Now, as I understand, when you paid 18s, the price for transport from the Pool to the coal cellar was 5s.? It would be more than that; it would be nearer 6s.; it is a varying estimate, so much depends upon the cost of provender horses, and rent." This was 30 per cent. of the entire working cost, including all the working expenses and transport to London, colliery owners' profit, and everything else. Further on Mr. COCKERELL said that whilst 6s. was the cost from the Pool to the coal cellar, the average cost from the railway to the consumer was from 4s, 6d, to 4s, 8d, per ton. Now, as the present price of coal in the Pool (the highest) is only 17s, 6d., then the charge according to Mr. COCKERELL ought only to be 23s. 6d. per ton instead of 26s. But as Mr. Bunning informs us that the actual price is only about 16s. 2d., then the charge to the consumer should only be 22s. 2d., or (say) for the sake of even numbers, 22s. 6d. But the charge appears to be 9s. 10d. per ton, or more than 50 per cent. on what the colliery receives for the coal and conveying it to London. Here there appears to be a vast and unconsciously a rest in this too eat a time scionable profit which nothing can really justify—this, too, at a time when trade is in such a depressed state, and wages low. The only wny that this state of things can be counteracted is by colliery owners combining together and becoming merchants, instead of allowing all the profits to be pocketed by middlemen, whilst the ordinary case to the produce? odium goes to the producei'.

RAILS IN THE UNITED STATES.

The history of American rails for the last six years is virtually the history of American railways, since as from 1872 American rails have dominated the American markets, and English rails have been practically excluded from them. After the close of the American War in 1865 the American railroad interest experienced a gradual revival of activity. This activity increased more and more in 1867, 1868, and 1869; and although in those years large quantities of English rails were imported into the United States, still the demand for American rails also expanded more and more. In 1867 the production of American rails was 462,108 tons, in 1868 506,714 and in 1869 503,586 tons. Rapid as was the advance in the production in 1867, 1868, and 1869, it was destined to be still further stimuin 1807, 1808, and 1809, it was destined to be still further stimulated and accelerated in the three succeeding years, the production being carried in 1870 to 620,000 tons, in 1871 to 775,733 tons, and in 1872 to 1,000,000 tons. The capital required for the prodigal, premature, and in some cases, it is to be feared, corrupt development of American railroads between 1868 and 1872 was obtained to a considerable extent from Europe; and every year the projects which were brought forward for the consideration and victimisation ean dunes be came more and more wild and worthless last the bubble of inflation burst, and the day of reckoning came. The collapse of the Northern Pacific Railroad scheme was the signal for ral alarm, and the era of disappointment and default commenced in 1874. In 1875, 1876, and 1877 there cannot be said to have been much improvement; indeed, matters have gone, on the contrary, from bad to worse; and although English rails have been gradually driven by low prices and prohibitive import duties from American markets, the demand for American rails has sensibly fallen off since markets, the demand for American rails has sensibly fallen off since 1872. In that year, as we have already shown, the production of American rails was estimated at 1.000,000 tons; in 1873 there was, however, a sharp decline to 890,077 tons, and in 1874 the production further receded to 729,413 tons. In 1875 it rallied to 792,512 tons, and in 1876 it increased still more to 879,629 tons. Last year appears, however, to have been a period of renewed exhaustion, and the manufacture receded to 764,709 tons. In spite of the policy of "protection to native industry" which finds such favour in the American Congress, 1877 can scarcely be said to have here are American Congress, 1877 can scarcely be said to have been a prosperous year for the American iron trade. Foreign competition may have been dealt with after a fashion, but still the demand for American rails was unmistakably weak during the last 12 months. There was but little life in American railroads in 1877, and there was in consequence but little life in the American iron trade. The American iron trade, in common with the English iron trade, deep

has experienced great vicissitudes since 1868, steel having largely displaced iron. This will be seen by the annexed table, showing the production of iron and steel rails in the United States in the deending with 1877 inclusive:

ralls.Tons

Thus, not even the prolonged season of depression through which the United States have passed since the JAY COOKE panic has been able to arrest the American production of steel rails. The great American railroad companies have steadily adhered to a policy of substituting steel rails for iron ones in the renewal of their permanent way; and the result has been that the demand for American steel rails has been ever growing. It may be interesting to add that of the rails produced in the United States in 1877, 45½ per cent. were made in Pennsylvania, 15½ per cent. in Illinois, and 10¾ per cent in Ohio.

THE MINERAL RESOURCES OF BRITISH COLUMBIA.

The fourth annual report of the mineral resources of the province of British Columbia, for a copy of which we are indebted to the Honorable the Minister of Mines—Mr. A. C. Elliott—is a highly encouraging one. It appears that the amount of gold actually exported by the banks during 1877 was 1,206,138/., to which one-third must be added for gold exported in private hands 402,046/., making a total of \$1,608,183. The total yield for 1876 was estimated by the Gold Companyate and Government Agents at 2890,671. by the Gold Commissioners and Government Agents at \$980,671. but the banks alone exported more than 3350,000 over that amount, and a large sum must be added for gold exported otherwise than though the banks. For the second time in the history of British Columbia the old mining district of Cariboo stands prominently forward. Ever since 1863 companies have from time to time been formed, and large sums expended, in the endeavour to find gold quartz in paying quantities. Unfortunately the necessary technical knowledge was wanting, and failure the result. In May last the Provincial Government—in addition to having offered a bonus, under certain conditions, to the company which should first erect a 10-stamp quartz mill in Cariboo—wrote to Mr. Brooker, Her Majesty's Consul at San Francisco, asking him if he would kindly employ on its behalf the services of some person skilled in quartz ploy, on its behalf, the services of some person skilled in quartz.
The province was indeed fortunate in Mr. Booker's selection, for
Mr. Harper's great knowledge and experience in lodes and ores are and the same as a same a same as a same apathy, and even at this season of the year, with many feet of on the mountains, men are out in all directions prospecting for le The yield of gold from the alluvial claims in Cariboo has doubtless fallen off; it is probable, however, that such has not been the case to the extent estimated by the Government agent. It is greatly to be regretted that the Victoria Company, on Cunninghame Creek,

have been obliged to abandon their ground.

The Government agent at the Forks of Quesnelle, acting for the Keithley Creek section of the Cariboo district, has naturally but little to report upon which could be considered of much interest to the general public. It is satisfactory, however, to observe that Keithley Creek (discovered in 1861) still continues to yield gold in paying quantities. The great bulk of the mining population in this section is composed of Chinese, from whom it is impossible to obtain returns even approximately accurate. It should be mentioned tain returns even approximately accurate. It should be mentioned that even in Cariboo the Chinese appear to be contributing much more largely to the development of the wealth of the province than the whites, the industrial population consisting of 471 whites and 753 Chinese. Of these numbers the whites are engaged, 333 in mining, 45 in trading, and 93 otherwise; and the Chinese are engaged, 598 in mining, 44 in trading, and 111 otherwise. The great drawback appears to be that the Chinese have brought no women with them the famile propulation heigh represented by 50 whites with them, the female population being represented by 50 whites and only 29 Chinese. The gold yield of the Casslar mining district slightly declined during the past year, but the season was a most unfavourable one for mining, and the report of the Gold Commissioner may on the whole be considered encouraging. McDame Creek has not sustained the high opinion formerly held of it by miners. Its first north fork, however, is apparently rich, the pay-dirt in one tunnel having yielded 136 ozs. to five sets of timbers, and prospects found in other tunnels are equally indicative of rich ground. The discovery by Mr. Walker of a new creek on a different range is most important; it will, in all probability, open up a new mining district. The prospect obtained—60 ozs. for 48 days' work—is really a good one, and it would appear that paying ground extends for at least 2½ mile. The gold being obtained in a different range from that in which previous discoveries have been made, is a fact of much significance to the practical miner. It is hoped and expected with confidence that the approaching mining season will be a more prosperous one than the last. The efforts made by miners to discover new diggings at Kootenay have not hitherto been crowned cover new diggings at kootenay have not interest of een crowned with success, but it is hoped that the coming season will give better reward. The estimated yield from the Okanagan section of the Province is the same as last year. Prospecting on Cherry Creek does not appear to have been attended with much success, but Mr. DUTEAU, late in the season, obtained a satisfactory prospect in the hill, and the discovery may lead to important results. Prospects have also been obtained on a small tributary of this creek, but no sufficient test has yet been made to instify any conneces necessaries. have also been obtained on a small tributary of this creek, but no sufficient te-t has yet been made to justify any opinion concerning it. The find of gold on the head waters of the Kettle river is probably the most important discovery yet made in this district. It must be remembered, however, that but little prospecting has yet been done. Mr. Dawson, of the Dominion Geological Survey (whose opinion is valuable), examined the Cherry Creek section last summer, and considered it to be rich both in gold and silver. It is scarcely necessary to dilate on the very great advantages which would accrue to the Province from the discovery of even a fairly paying mining camp in this one of the most important farming and stock-raising camp in this one of the most important farming and stock-raising

camp in this one of the most important farming and stock-raising district of British Columbia—the miners would have cheap food and the farmers a ready market. As to Kamloops, a few Chinamen continue to work on Tranquille river, but the Government agent is unable to report any new discoveries of paying ground.

With regard to coal, the report is highly satisfactory. Notwithstanding the continued depression of the coal market in San Francisco the total output for 1877 exceeded that for the preceding year by nearly 15,000 tons. The total yield was 154,052 tons in 1877, against 139,191 tons in 1876. The Nanaimo Collieries include the Douglas, Chase River, and Fitzwilliam pits, and are worked with a plant of the value of \$123,000, and produced 94,810 tons in the year. The Douglas Mine, Nanaimo, is worked by slope; there are six levels, three of which are in operation, the coal in the lowest is about 5½ ft. to 6 ft. thick. The product of this mine is first-class for gas making to 6 ft. thick. The product of this mine is first-class for gas making purposes. The old Douglas pit is now used as an up-cast shaft. New Douglas Mine is situated near Chase River, about 13 mile from the old Douglas pit. The mine is being opened up by slope with three north and south levels. The thickness of the seam extends from 4½ ft. to 9 ft. of very clean coal, which is known as New Douglas, or Chase River coal, and is held in the highest estimation in the foreign and domestic markets for steam and household purposes. The capacity is now upwards of 280 tons, which will be doubled on completion of the powerful hoisting and pumping engine in course of erection. Fitzwilliam Mine, on Newcastle Island, is worked by slope of 800 yards. The coal produced is of a first-class quality for steam and household use. Newcastle Mine, not in operation, 240 yards by slope, on Newcastle Island. Chase River Mine, 290 ft. deep by shaft; not in operation. The railway is a little more than

two miles in length, constructed of heavy double headed steel might state to the yard, laid on chairs, bolted to wooden ties. The railway extends from the New Douglas Mine to the company's loading pier, with branches and sidings to the Douglas Pit, &c. The company have 50 5½-ton coal cars and 50 3½-tons, and three powerful docomotives. There are facilities at the company's wharves for & livering 1500 tons of coal per day. The Wellington Collieries as worked by one slope with \$140,000 worth of plant. There is on seam 8 ft. to 10 ft. thick, and two 3 ft. seams; they have 3¾ miles of railway, three locomotives, over 100 wagons, three engines, trustem-pumps, &c., and produced 48,743½ tons of coal in 1877. The miners were on strike for four months. The Harewood Colliery has one workable seam from 3 ft. to 9 ft. wide, water level, air level, and drawing level, and 2¾ miles aerial tramway. The value of plantif any, is not stated. The output was 9000 tons in the year. At Baynes Sound Colliery they have two seams worked with \$67,000 if any, is not stated. The output was 9000 tons in the year. At Baynes Sound Colliery they have two seams worked with \$67,00 worth of plant. They have one 7-ft. seam, one 4 ft. 6 in. seam, and about six tunnels, they have 3½ miles of railway a Baldwin 8 to locomotive, and about 25 cars. The output in 1877 was 1500 ton. The Nanaimo Collieries employ 428 hands; the Wellington, 25%, and the Harwood 83 hands. The wages paid differ very little at the several collieries, being \$2 to \$4 per day for whites, \$1 to \$1½ for Chinese, and about \$½ more for Indians.

The report to the Minister of Mines upon copper received from Mr. HARPER, the Government Mining Engineer, after a personal inspection of the Howe Sound Copper and Silver Mine, is wonderfully eccuraging. Mr. HARPER not only pronounces the lode to be a traffssure vein but states that it is the richest ore of its character which he has ever seen on this coast or in England. Mr. HARPER which

fissure vein but states that it is the richest ore of its charges and he has ever seen on this coast or in England. Mr. Harpen's being that the country between Howe Sound and Jervis Inlet will in time become a great mining district is well worthy of attentive considerable.

Harpen states that in consequence of a considerable ation. Mr. Harfer states that in consequence of a considerable depth of snow on the summit of the mountain where the mine is situated he was not able to follow the lode continuously for an situated he was not able to follow the lode continuously for any great distance, but on the south-east side there was about 300 ft, of the lode exposed. He examined it and found it about 2½ ft, wide, running nearly east and west. The lode, a true fissure vein, has perpendicular footwall. There are stringers further south which at a lower level will run into the lode. The ore is of a rich characte, made up of peacock and grey ore, and oxide of copper; it carries also a large percentage of silver. It is the richest ore of this character he has ever seen on this coast or in England. The formation is granite. In Cornwall (England) the richest copper mines are in granite. In Nevada the richest silver mines, with the excentions is granite. In Cornwall (England) the richest copper mines are in granite. In Nevada the richest silver mines, with the excepting of the Constock, are in granite. He firmly believes that the lode will at a greater depth from the surface prove to be richer in silver than in copper. He can with confidence recommend it to mining capitalists. There is no road to the mine, which is in consequences present difficult of access. He would recommend that a competent person be sent to examine the country between the mine and the salt water with a view to laying out a road in the most eligible cation. Not only may the mine he has made particular reference to be thus opened but the ground on the east and water were opened but the ground on the east and west may be

CHILEAN COPPER MILLIONAIRES .- Mr. HENRY SEWELL, ME. writes—Lately we heard through the press of the death of a Chiles millionaire, Don Augustin Edwards, who leaves a fortune of \$25.000,000, having held the monoply of copper for years. Don Jos Thomas Urmeneta has a fortune of about \$16,000,000, acquired through his copper mines in the district of Tamaya, province of Coquimbo, where he has splendid smelting works and about 40 furness. Mr. Charles Lambart another account millionaire arrival. naces. Mr. Charles Lambert, another copper millionaire arrived in Chile in 1830 a poor man. He died last year leaving \$5,000.000 in hard cash, besides his mines and smelting works in Chile and Swap sea; these being but a few of the many successful operators in the copper mines of that country that might be mentioned. By wayd illustrating the richness of the ores there I give you the following facts touching the production of the Rosario Mine, in the district of Tamaya, Coquimbo, for nine years—reaching from 1866 to 1875, inclusive. The average percentage of metal contained in the ore during this time was 19; tons raised, 64,000; value, \$4,393,128, or in round numbers, 850,000%. When I was in this mine in August 1876, the production for that month was 940 tons, average assay, 21 per cent. Mr. Urmeneta's mine, close to this and on the same via, has produced thrice the above amount—180,000 tons, of an average of 31 per cent., during 15 years. I could give you a great many more examples of like purport were it necessary. From a practical experience of 10 years in copper mining and smelting in Coile, I can safely assert that if capitalists paid more attention to this branched mining they would be amply rewarded for their outlay.

MINING IN ARIZONA .- Mr. Henry Sewell, M.E., has been engaged to report on the McMillan Mine, in Arizona,—a mine that is slipping \$20,000 ore to the ton, and the richest mine in the world after those of Chile. We expect that we shall be favoured with a report from Mr. Sewell of the inspection of this wonderful mine.

MINERAL WEALTH OF THE LAND OF MIDIAN .- An interesting announcement reaches us from Cairo. The famous explorer Capt Burton, commanding the Khedival Expedition for the survey of mines in the land of Midian, has returned to Cairo. He travelled on the land of Midian, has returned to Cairo. He travelue 500 miles by land, and brings back 25 tons of specimen ore, comprising gold, silver, copper, tin, and lead. Capt. Burton found three sulphur centres, three torquoise mines, extensive deposits of gypsum, saltpetre, and rock salt. He comes to England in order to arrange as to working the mines for the Khedive. Simultaneously with this report occurs the publication of Capt. Burton's book "The Gold Mines of Midian, and Ruined Arabian Cities," in which a wonderful ccount is given of the results of his explorations last year.

GREAT ESCAPE OF GAS FROM A COAL BORE .- A workman in the employment of the Gartness Coal Company heard a loud hissing sound proceeding from a bore recently put down in the neighbourhood of the extensive works at Gartness. On receiving information the manager at once proceeded to the spot, and after ins rting a pipe set fire to the waste, which at once blazed out most furiously. This ges continued burning for some time, when the manager carried the gas close to the engine boilers by means of a 2-in. pipe, so that if there is any likelihood of the pressure continuing long the gas may be utilised for heating the boilers and raising steam. At present the country for a great distance around is nightly brilliantly illuminated with the great escape of gas.

CHEAP GAS FOR HOMES AND MANUFACTORIES .- Almost endless discussion has been published in the Mining Journal upon the manifacture and use of water gas, but hitherto nothing approaching comercial success has been obtained. In a paper on the subject, rad before the Society of Arts by Mr. S. W. DAVIES, A.R.S.M., it was stated that numerous attempts have been made by previous workers in this direction to produce a cheap gas for heating purposes by the action of water vapour on incandescent carbon. It has long been action of water vapour on incandescent carbon. It has long been known that if steam be passed over coke or charcoal heated to redenses a decomposition of the steam takes place, hydrogen, carbonic oxide, carbonic anhydride, and a small proportion of marsh good being produced. The object of Mr. Davies's paper was to describe a modification of Kidd's patent. The apparatus used is small, compact, by no means costly, and combines a gas generator, boiler, and superheater in one; it generates its own blast is continuous in its uperheater in one; it generates its own blast, is continuous in its totion, and so easily worked that a person of average intelligent nay be taught to attend to it in a few hours. In the discussion which followed he stated that the cost of this gas was about 5s. 3d for 10,000 ft. in the small generator, but when a larger generator was used 7s. 10d. for 35,000 feet, or about 3d. per 1000 cubic lest. Owing to the large percentage of nitrogen the gas was very little sive -in fact, he had found it difficult to explode it when a with pure oxygen by passing an electric spark through it. Francis Knowles, Bart., F.R.S., offered Mr. Davies his condolend the large quantity of nitrogen present, which must considerably a duce the temperature of combustion, and, therefore, the effective value of the fuel. Mr. Davies said he had not calculated the temperature of the fuel. rature of combustion. The gas exhibited was then tested, and found

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APRIL 2

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April 25.—W idedly an exce With better op gentleman who se view to originally c tep was emir A majority of attempted to sult, or rathe It is said, an versally oppos hareholders, I laid before the far as they cou ld and obnox et two or thr owledge of volve, passed turn to the fiv idered the a made they c 52 weeks' WOI and four mon ingly on Satu the resident d proceeded to s been previous that they had decided to tak eult was that men througho then. Feeling have been madend give them.
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An illustra cious use of on Saturday sions of whi sions of whi the base, wal top, with 12 ft. top; estimated fret weakening quoins standing boring of the qu powder, the co

capable of heating platinum wire beyond bright red; in the absence introgen a dazzling white is obtained. Mr. T. W. Hartley did not so far as Sir Francis Knowles in his condemnation of the gas, but imitted that all these water gases were infinitely inferior in heating ower to those containing hydro-carbons. In replying, Mr. Davies ontended that, notwithstanding the nitrogen, a great heating effect ould be produced at a much less cost than with ordinary gas.

GLOBE STEAM-BOILER POWDER.—In the Journal of Sept. 15, 877, when calling the attention of steam users to J. Berger Spence ad Co.'s Globe Steam-Boiler Powder to avoid incrustation in the oilers, we wrote—"We may state that after examination we have reat faith in the efficacy of their ingredient." We are glad to say that events have proved that we were perfectly justified in making and a statement. Barely six months have elapsed, and in that period lessrs. Berger Spence and Co. have supplied their Globe Steam-boiler Powder to more than 60 of the largest concerns in the United Kingdom. This is a success considering the heavy depression of the iron trade, the great competition existing for similar compositions, and the difficulties always attending the introduction of a new agredient. As may be expected, but few consumers as yet have seen able to report upon it; it is necessary to use such compositions or at least three or four months before being able to test fully their perits. Notwithstanding this, however, Messrs. J. Berger Spence and Co. have already received very good testimonials, and many who are had time to test it have repeated their orders, some using as GLOBE STEAM-BOILER POWDER.—In the Journal of Sept. 15, nd Co. have already received very good testimonials, and many who ave had time to test it have repeated their orders, some using as such as 1 ton per month. The Globe Steam-Boiler Powder has rorked well, more especially in Somerset, Lancashire, Gloucesterhire, Durham, Kent, Essex, &c. We may be allowed to suggest that Iessex, J. Berger Spence and Co. should reduce their price, and exend more widely the special advantages they have granted to those ho have adopted the Globe Steam-Boiler Powder as the sole composition to avoid incrustation.

REPORT FROM CORNWALL.

April 25.-We do not as a rule expect much excitement or much April 20.—We do not as a rate expect index excitement of inder usiness in the course of holiday time. This Easter, however, is de-dedly an exception, thanks to the strike at Devon Great Consols, idedly an exception, thanks to the strike at Devon Great Consols, with better opportunities of guaging the state of local feeling than centleman who live in the Metropolis we have always held an adverse view to the five-weeks month. When the agitation against toriginally commenced we saw and forefold that it was doomed, and when it was proposed to revive it we pointed out that the tep was eminently injurious, and would lead to no good result. A majority of the managerial powers at Devon Great Consols has tampted to force it upon the miners there, and we now see the

A majority of the managerial powers at Devon Great Consols has ttempted to force it upon the miners there, and we now see the result, or rather one part of the result, for the end is not yet.

It is said, and with truth, that the responsibility of the step which has been taken is a very grave one. The alteration is almost universally opposed by shareholders, agents, tradesmen, and minere. Urgent remonstrances have been sent up to the directors by local shareholders, petitions in firm but respectful language have been laid before them from the numerous employees, and the agents, so hareholders, perturbed in this way as polyees, and the agents, so laid before them from the numerous employees, and the agents, so far as they could venture, have intimated in plain language that the ld and obnoxious system could not with safety be reimposed, and but and commands systems were two or three of the non-resident directors, having but imperfect knowledge of the serious consequences which such a step might involve, passed the following resolution, which is an undisquised return to the five-weeks month:—"The directors having further conturn to the neweeks month:—"In directors having lattice considered the alterations in the time and work of payment to be made they consider that for the future there should be for the 52 weeks' work 12 monthly payments, six months of four weeks, and four months of five weeks, making in all 52 weeks." Accordingly on Saturday, the usual monthly and setting day, Mr. Morris, the resident director, and Captain Isaac Richards, the chief agent, the vesquistion having the payment the vesquistion having proceeded to set the bargains in Wheal Emma, the resolution having been previously read to the men, whereupon one of the latter stated that they had had a meeting in the morning, and had unanimously decided to take no bargains under the five-weeks system. The result was that not a single contract was let, and the whole of the men throughout the mines (in number about 600) struck there and then. Feeling in the locality is entirely with the men, and offers have been made by the tradesmen to raise subscriptions for them, and give them credit, if they will continue to hold out.

Under such circumstances we do not for one moment believe

that the men will go in, especially when we find that at Gunnislake (Clitters), which is the largest mine in the neighbourhood next to Devon Consols, and which is under the local management, which

Devon Consols, and which is under the local management, which must be more capable of dealing with such a question than a London board, it has been resolved by the committee unanimously that "the interest of the company will be best served by the continuance of the present system of payment of wages every four weeks." Wheal Russell, too, has pronounced against the five-weeks month, and the men at Wheal Crebor have refused to take any bargains under it.

To us the point in dispute seems narrowed to such an issue that the blunder of attempting to reintroduce the old system is hardly conceivable on the part of business men. If it was wanted to reduce wages, which are already practically at the lowest point, surely it might have been done straightforwardly, and if all that is needed is a return to the old system of accountancy, as some would argue, surely that doubtful good was not worth this price. However, the step has been taken, and we do not believe that those who have taken it will be long in finding out its impracticability, only it will be at the cost of much loss to the mine, and much suffering to the men and to their families. To us, moreover, the time of action seems as ill judged as the act itself.

Mr. Wickham's letter on the yield of tin in Tasmania, and especials.

as ill judged as the act itself.

Mr. Wickham's letter on the yield of tin in Tasmania, and especially at Mount Bischoff, is certainly by no means calculated to reassure our home miners, only there is no particular cause for alarm if he is not better informed with regard to the Antipodes than he is upon Cornwall. Bad as things are down West it is hardly yet true, as he says, that "since that period (1874) the Cornish tin mines have, as I feared, almost become defunct." If he will only pay us a visit he will find that there are a good many rather lively corpses about, and that there is something to be said for the future of an industry which, in spite of Mount Bischoff and foreign complications abroad and an almost unparalleled dulness at home, can yet not only keep up several old dividend concerns but establish new ones. If we make the same allowance of what he says about Tasmania as we

up several old dividend concerns but establish new ones. If we make the same allowance of what he says about Tasmania as we must for Cornwall, the cause of alarm is not so very great after all. Perhaps Mr. Wickham had in view the collapse at New Consols as one of his data; that, as no doubt Mr. Symons's pamphlet will show, is really no exception. Mr. Symons will do an excellent work in stating authoratively what the practical results of that great experimental work really were. It will be, however, rather delicate ground if he takes it up, as he hints, from the personal side. A gentleman who took a lively interest in all matters connected with the county of Cornwall, and specially in mining and the allied sciences, has just died at the advanced age of 80—Mr. Charles Fox, of Trebah, brother of the late Mr. R. W. Fox, F.R.S. He was one of the founders of the Polytechnic Society, of which, and of the Royal Cornwall Geological and the Miners' Association, he filled the office of President. the office of President.

It is very satisfactory to find that the dividends at Peevor and

It is very satisfactory to find that the dividends at Peevor and Condurrow have been so rapidly followed up by the very satisfactory report at West Seton, though, like a good many practical men, we doubt the advisability of having declared a dividend there at the present moment. However, it will be gratifying to the shareholders, and not without its value as a further proof of the stability of Cornish mining, in spite of all that is said and done.

An illustration of the effects that may be produced by the judicious use of small quantities of explosives was supplied at Plymouth on Saturday last, by its blowing down a huge chimney, the dimensions of which were as follows:—212 ft. in height, 23 ft. square at the base, walls 7 ft. thick at base, and finishing 4 ft. thick at the top, with 12 ft. due at the base, and 4 ft. at top, making together 13 ft. across the top, estimated weight 4000 tons. The plan of operations for the fall consisted in first weakening the masonry on three sides of the square base, leaving all four gooms standing, and the greater portion of two sides intact; then by a judicious boring of the quoin stones at three angles were similtaneously blown out, and the masonry so much shaken on those sides that the stack gradually collapsed,

and fell without throwing a stone or brick out of the broad pit in which it was built. Altogether there were 2 3 charges of Kennall blasting powder, containing in all about 28 lbs.; no dynami te was used. The holes were bored to the length of 2% ft., and 2 in. in diameter. There was a little over 1 lb. of powder to each hole, and nine charges were placed at the east angle, eight at the south angle, and six at the north angle. The jud icious manner in which the work was carried out reflects great credit on Messrs. Hilson and Walker, by whom it was executed.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

April 25.—On account of the Easter holidays the works and col-lieries have been idle during the first half of the week, and in a good lieries have been idle during the first half of the week, and in a good number of instances operations will not be resumed at all this week. The demand for iron and coal has seen little, if any, improvement since the Quarterly Meetings came off, and those proprietors are the exception who have orders on their books which will take long to execute. The fear of war still exercises a very prejudicial effect in business circles, and it is the general opinion that there will be no settled improvement in trade until the existing uncertainty is removed. Pig-iron as a rule is dull, and the present production does not exceed one-half of that of former years, which, moreover, found a ready sale. Out of 148 furnaces built only about 44 are blowing. Three years ago the number at work was from 95 to 100, and a year a ready sale. Out of 148 furnaces built only about 44 are blowing. Three years ago the number at work was from 95 to 100, and a year back rather over 60 were in blast. For all but high-class pig-iron, which is firm, the tendency of prices is in favour of buyers. Native ironstone is scarce and dear. Finished iron prices are without alteration in the open market, but medium and common qualities in actual transactions are easy. The Coal Trade is languid in all departments, and prices are very low. Slack is slow of sale at about 3s. per ton, of as good a quality as that which formerly fetched a very much higher price.

of as good a quanty as that the higher price.

The Hamstead Colliery Company (Limited) have just issued their third annual report. The coffering of the shaft has been completed, and the pumping shaft has reached a depth of 200 yards. There has been no fresh accumulation of water since a depth of 175 yards was reached, and the supply there is at the rate of 50 gallons a minute. A chamber is being formed at a depth of 175 yards, which appears to be the bottom of the water-bearing strata, where the water will be to be the bottom of the water-bearing strata, where the water will be collected, and pumped to the surface. A favourable indication of the presence of coal is the finding at a depth of 186 yards of the Spirorbis limestone. With a view to securing early information as Spirorbis limestone. With a view to securing early information as to the presence or otherwise of coal at the adjoining sinkings of the Perry Company, the directors have voted 500% towards the expense to the Perry Lower on cartain conditions. Mr. Isaac Meachem has

or the Ferry boring on certain conditions. Mr. Isaac Meachem has been appointed resident mine manager.

Circulars have been issued announcing to shareholders that the directors of the John Bagnall Ironmaking Company, of Wednesbury, propose to reduce the share capital from 160,000% to 48,000% by dropping the 10% shares to 3% each. It is also proposed to raise 96,000% by means of 48,000 shares of 2% paid, but to rank as 3% five per cent. perference shares, with priority of claim also to assets. In depreciation and loss the concern is poorer than it was four years ago by 149,000%.

A quarterly meeting of the committee appointed to distribute amongst the widows and orphans of miners who meet their deaths by colliery accidents the interest of the principal of the South Staffordshire Hartley Colliery Surplus Fund has been held in Wolverhampton, and it decided that the title of the fund shall be the "South Staffordshire and Worcestershire Mine Accident Fund." It was resolved to invest the principal (3200%) in Great Western Railway Five per Cent. Consolidated stock, and a form of application for creating the way for the control of the

for gratuities was determined upon.

At an annual gathering of the miners of the Cannock Chase United districts, which has taken place at Hednesford, complaint was made that the East Cannock Colliery Company were attempting to depart from the recent award of Mr. Chamberlain, M.P., and the meeting decided to repel any such attempt at that or any other colliery Much distress exists amongst a great part of the mining popula

tion of Cannock.

The North Staffordshire finished iron trade is not active, the foreign demand being especially dull. The limited make of pigs is somewhat readily sold, and stocks are decreasing. Ironstone is low in price, and not easy to sell. The market is plentifully supplied with coal and slack; the demand is depressed.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

April 25 .- A meeting of the debenture holders of the Great April 25.—A meeting of the debenture-holders of the Great Western Colliery Company, which is now in liquidation, was held at Bristol. Mr. J. Wethered, colliery proprietor, presided, and the meeting was called by direction of Vice-Chancellor Hall, to ascertain the wishes of the debenture holders in regard to the reconstruction scheme. This was agreed to, and the Chairman expressed the belief that if the colliery were carried on with ordinary economy and good management there was no doubt that every debenture and preference shareholder would get held every expressed.

nomy and good management there was no doubt that every de-benture and preference shareholder would get back every sixpence of their money—a "consummation devoutly to be wished." There appears to be a probability of the Burry Port Lead and Silver Smelting Works being re-started within a few weeks, if rumour is correct. The company failed in February, 1877, and the liabilities were more than 350,000%. Now, it is said, the whole concern has been handed over to Mr. J. W. Williams, Farcroft, Handaworth, near Birmingham, who intends to carry it on per-sonally. He was the principal mortgagee, holding security for over 60,000%.

over 60,000t.

A meeting of the debenture-holders of the Dynevor, Duffryn, and Neath Abbey Collieries Company has been held for the purpose of determining "what is the best course to be adopted in the interests of the debenture-holders, in view of the two petitions to wind up the company which have been presented to the High Court of Justice." The matter was referred to a committee consisting of two trustees and three debenture-holders—Messrs. Bidder, O.C. Marlow, and Ryland. A resolution was also research which

sisting of two trustees and three debenture-holders—Messrs. Bidder, Q.C., Marlow, and Ryland. A resolution was also passed asking Mr. Cullum to stay his petition—at least for a time.

The body of the boy Davies, who was drowned by the flooding of the Western Moor Colliery, Neath, has been discovered. One body, that of a man, remains unrecovered.

The Iron Trade remains in about the same state, so far as the amount of work in hand and prices are concerned; at the same time it is certain that a better demand is apparent for the best descriptions of iron and steel. Orders, too, for iron rails for South America and Canada are known to be in the market, and Welsh masters have a fair chance of securing the lion's share of these. masters have a fair chance of securing the lion's share of these. Clearances have been fairly kept up of late, and now that times are bad, there has not been much holiday making among the men, as used to be the case when wages were high and trade active. For iron rails there seems to be rather a better enquiry, but bars are still in limited request; Dowlais, however, has some decent orders in this department. The Steel Trade is fairly active as times go, although orders are not at all brisk in coming to hand. The main complaint, both in this and the iron industry, still is as to the lowness of prices.

Important proceedings in reference to the Tin Plate Trade have taken place during the week. For a long time prices have been re-ceding, until at last no one denies that they are utterly unremuneceding, until at last no one denies that they are utterly unremunerative to manufacturers. No doubt over-production has been a fruitful source of this. During the week a meeting of the entire trade has been held at Swansea. There were 144 mills represented at the meeting—not quite three-fourths, as the total is a little over 200. The resolutions, the pith of which is given below, were carried subject to the assent of the owners of 20 more mills, which will, doubtless, be obtained. In the first place, the make is to be reduced one-third from April 29, for three months, such reduction to be based on the maximum make of 450 boxes for each steam and 350 for each water mill. To see this restriction is properly carried out a public accountant is to be appointed to inspect the books, and a deed binding each signator, under a penalty of 500k, to faithfully carry out the arrangement is to be drawn up. It was also resolved to reorganise the manufacturers' association, and appoint a council and president, which of course means a revival of the quarterly meeting, and the consequent establishment of the trade on a firmer basis.

The Coal Trade has not materially changed during the week. The demand for steam coal, especially in the direction of the Mediter-

ranean, continues good; prices, however, though firm, have not improved. Indeed, there seems no indication of a rise. The collieries proved. Indeed, there seems no indication of a rise. The collieries generally are not regularly employed, but coal is very abundant. Steam coal freights to the Mediterranean are firmer. House qualities are in anything but brisk demand. Patent fuel is very dull.

THE TIN-PLATE TRADE—PROPOSED REDUCTION OF MAKE FOR THREE MONTHS.—One of the largest meetings of the tin-plate manufacturers that has been held for a long time past took place on Tuesday at the Mackworth Arms Hotel, Swansea, to consider the propriety or otherwise of reducing the make of tin-plates, in view of the depressed condition of the trade. When we state that 125 mills were represented in the room, and 19 by letter, nearly two-thirds of the mills of the United Kingdom, it will at one be seen that the gathering was, as aiready stated, of Machen, in the chair; Messra. Sanders (Cookley), Flower, Whitehouse, O. Morris, Baldwin, W. H. Francis, Hoszood, W. Jones, R. Hughes, D. Owen, D. Davies, E. R. Daniel, J. R. Jenkins, J. J. Jenkins, Booker and Co., P. Phillips, D. Morris, C. Conway, G. B. Strick, Spence, J. C. Hill, Josiah Griffithe, T. J. Kewman, and John Evans (Cambrian Co-operative Tin-Plate Works, Pontardulais), Williams (Pontypool), Williams (Kryspenliwch), E. Davies and R. Jenkins (Avony Vale), D. Grey, W. Williams (Morriston), and Thomas (Lydbreck and Lydney). The meeting lasted a considerable time, and a good deal of discussion took place, the result being that the following resolutions were unanimously agreed to:

"That the make be reduced one-third for three months from April 23—such reductions to be based upon the maximum make of 490 boxes for each steam mill, and 350 for each water mill—each maker to reduce in any way most convenient to him, so that a full and effectual reduction of not less than one-third is made in the month. That a public accountant be appointed to examine and certify from the pay book of each works at the beginning of every month the make of the mills of such works for the preceding month. Th. to mill be started during this time that has not been at work for the last three months. That a deed be drawn up binding each firm faithfully to conform and carry out this arrangement under a fine or penalty of 500., to be recoverable in a court of law. That a reorganisation of the trad THE TIN-PLATE TRADE-PROPOSED REDUCTION OF MAKE FOR

TRADE OF THE TYNE AND WEAR.

April 24.—The improvement in the Steam Coal Trade in Northumberland, noticed last week, has continued, and, on the whole, this branch of the trade has been fairly brisk. In the Blyth district the works have been kept regularly going, and there is a better demand for this coal. It is also expected that contracts will be entered into shortly, which will insure more regular employment in future. At any rate negociations are in progress in order, if possible, to secure these contracts. The claims for reduction in the tonnage rate at these contracts. The claims for reduction in the tonnage rate at Cramlington and a few other places have not yet been settled, and some complications may arise from this cause.

By the official report on the experiments as to the suitability of various kinds of coal made on board the German gunboat Nautilus

various kinds of coal made on board the German gunboat Nautilus during her recent voyage, it appears that Japanese Taku coal, a mixture of one-third South Wales coal and two-thirds West Hartley coal, and German coal were severally tried. With regard to the German coal the report states that good results were obtained, but the cinders adhered too much to the grate, and too much time was consumed in kindling the fire. The coal was also drowsy. Mixed with West Hartley coal it did very well. The mixture of West Hartley and South Wales was the most satisfactory, being preferable to either pure South Wales or pure Westphalian coal. It will be seen that those results agree very nearly with those obtained by numerous experiments at various times carried out in the ships of the British navy. There is no doubt whatever that those two coals hold a position superior to any other steam coal.

the British navy. There is no doubt whatever that those two coals hold a position superior to any other steam coal.

An engine, to perform the work of the pony putter in colliery work, has been tested in East Herrington Colliery. The engine is the invention of Mr. Lishman, managing viewer of the Lumbton Collieries, and Mr. Young, engineer, Bunker's Hill, and is worked by compressed air. The "putter," dragging three tubs, proceeded into the workings, doing a journey of over a mile, and returned in little over ten minutes, which work would have occupied a horse for about half an hour. The engine worked all day without a hitch, and at a very considerable saving in cost of working. Several of these engines are in course of construction at the Lambton engine-shops at Philadelphia. This locomotive appears to be designed for the ourse. gines are in course of construction at the Lambton engine-shops at Philadelphia. This locomotive appears to be designed for the purpose of performing the work usually assigned to ponies driven by boys near the face of the workings, but there is no reason why the engine or those of similar construction should not be employed in drawing the coals in the main roads instead of hauling-engines and

wire-ropes.
About fifty of the enginemen mechanics, and workmen met at the Hetton Colliery Hotel, and presented a handsome gold watch, gold chain, and a purse of gold to Mr. Moor, who has been for 30 years engineer under the Hetton Coal Company (a pair of gold eye-glasses were also presented to Mrs. Moor), as a token of the high esteem in which he is held. The chair was occupied by Mr. W. H. Lambton, and the vice-chair by Mr. J. Robinson. The presentation was made by Mr. James Young, of Elemore Colliery, one of the first apprentices bound under Mr. Moor at Hetton Colliery. A very agreeable evening was spent. Mr. Moor was trained at Killingworth Colliery, under the late Mr. Nicholas Wood, by whom he was removed to Hetton.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

April 25 .- Among the collieries of this district that during these April 25.—Among the collieries of this district that during these times of depression have been preparing their works for an extended output when trade revives may be mentioned that of Cae Penty, near Wrexham. A new shaft has been taken down to the Main coal, and workings opened out in this seam, which here is of very good quality. The colliery has been connected with both the Great Western and the Wrexham and Connah Quay Railway, and the whole of the works pushed well forward. With the return of spring the demand for home and gas coal slackens, while the competition is keen, and the orders much divided at barely remunerative rates. In steam coal we may soon receive a margin of benefit from the orders for naval purposes that are flowing into other districts. The prospectus is issued of the St. Martin's Colliery Company, with a capital of 2000k, for the purpose of working the coal seams in the Permian, near the village of that name. It is not often that so smalla capital suffices for the working of a colliery, but the promoters hope that suffices for the working of a colliery, but the promoters hope that with energy, efficiency, and economy the undertaking will be and cossful." As soon as the underground roads, which are said to extend upwards of a mile, are with the pits drained of the water that

The old slate quarry at Llangynog is about to change owners.
The old slate quarry at Llangynog is about to change owners.
This is one of the oldest slate quarries in North Wales, and is at the present time in capital working order. It possesses an almost unlimited supply of good slate. The other slate quarry trials near Llangynog—the Parsons. Gubbin, and Bwich Gwyn—are all proceeding satisfactorily. The Management Slate Quarry also is likely Llangynog—the Parsons, Gubbin, and Bwlch Gwyn—are an proceeding satisfactorily. The Maengwynedd Slate Quarry also is likely to pass into the hands of a company. All that is wanted to the complete success of these and other mineral undertakings of that locality is a train or railroad from Oswestry to Llangynog. Who will start is a tram or railroad from Oswestry to Llangung. Who will start the movement for the construction of one? The partnership known as Dennis and Co. for the working of the Cefn Freestone Quarries is

dissolved, and the quarries enter upon a new arrangement.

Little can be said concerning lead mines this week. The ordinary paying mines, perhaps, show a little weakness, and the hopeful ones are passing through the usual fluctuations and hope. Some of these latter, formed and worked on ordinary business principles, seem advancing towards success, but there seems to be a strong desire on the part of some of the more pretensious ones to share with the investing public the fortunes that are to be made. There are no discoveries of note, and the tidings from some of the progressive mines are hardly so satisfactory as could be desired.

The attention of the Geological Society has recently been directed

to the lower rocks that underlie the workable slates of Carnarvon-shire. Dr. Hicks and one or two others think they belong to the older group than the Cambrian, usually known as the Laurentian, some divisions of which Dr. Hicks has in Pembrokeshire named Poblidian and Dimitian—names, I veture to say, that will never be generally accepted. The question is of little practical value, being one chiefly of name. Mr. G. Man, F.G.S., Benthall Hall, Brosely, has also detected an unconformability in the slates of Llanberis; but such

local unconformabilities are common in the midst of all the great geological groups, and the one described may simply be a local and subsidiary one, and not a great boundary line between two formations characterised by distinct features. The North Wales people have sent nearly 7000/. for the relief of the distressed colliers and ironworkers of the South. Talking of the South, slate quarry enterprises are popular just now in Carmarthen and Pembroke, and some of these may really develope into successful quarries.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

April 25.—The week has been as usual interrupted by the holidays, but this has been as much an advantage as otherwise, seeing that ironworks and collieries have been the reverse of busy. In Derbyshire there has been the usual make of pig, but the mills and foundries have been comparatively quiet for some time. The Bessemer works at Dronfield have been active, and are likely to continue so.

The Admiralty has given an order for steel shovels to a firm at
Chesterfield that at the present time comes in most opportune. The Chesterfield that at the present time comes in most opportune. The collieries have been working about four days a week, so that the holidays have in no way interrupted business, but has been a relief, seeing that at several places stocks of coal were accumulating. Prices are still very low, and as the weather becomes warmer the decline in the demand is likely to lead to a still further reduction. The London merchants, however, are working hard to keep up prices, and are now making as large profits as they did during what was termed the "coal famine" in 1873. Steam coal for shipment is likely to bein good request during the season. is likely to be in good request during the season.

In Sneffield the week has been a particularly quiet one, very little work having been done. There are, however, strong indications of a most decided improvement in the trade generally, and the number of persons whose names have been on the relief list has sensibly declined. In the South Yorkshire district the coal trade has been anything but active, and the business doing with the Metropolis has fallen off. Steam coal has improved in request, but we the shipments from the Humber ports have been says made. as yet the shipments from the Humber ports have been very moderate; but now that the Baltic may be said to be clear of ice it is expected that the season will be a busy one, provided that there is no war with Russia. Were a war to break out, and as coal is considered to be contraband of war, then the trade would be seriously impeded. At the Hoyland Silkstone Colliery, near Barnsley, the men are still on strike, but a good many non-Unionists are employed in their places. On Tuesday there was a meeting for the purpose of getting the men to join the Union, but the result was anything but what the promoters desired. At four collieries at Barnsley the men have been discharged, owing to the slackness of trade, and the horses drawn out.

COMPRESSED AIR-ENGINES.

The engines constructed according to the invention of Messrs, DODD and ASHWORTH, of Waterfoot, are provided with a reservoir containing compressed air, which is supplied to the engine, and after use therein is returned to the said reservoir. And it is an important feature of their invention that the air is used cold to prevent expansion. They provide a vessel or receptacle provided with means for supplying it with compressed air and strong enough to hold the same under the required pressure. According to this invention they construct an engine with a strong foundation or bed-plate, in which is firmly fixed a cylinder fitted with a piston in the usual or any convenient manner. The piston-rod is provided with suitable guides,

and by a connecting rod imparts rotary motion to a crank, on whose shaft may be mounted a fly-wheel.

The compressed air is conducted from the said reservoir to the engine by a pipe, and is distributed in the cylinder thereof by an ordinary slide valve. Another pipe extends from the said cylinder to a valve-box or cheet, which is fitted with two slide valves that receive a reciprocating movement from a came on the crank chaft to a valve-box or chest, which is fitted with two slide valves that receive a reciprocating movement from a cam on the crank shaft, thereby controlling the passage of the air, and sending it alternately through two pipes, which extend from the said valve-box to the receiver. This cam is so formed that the said valves remain stationary for one half of the engine stroke, and are moved by the said cam throughout the remainder of the stroke. The said receiver has a pair of cylinders secured within the compressed air reservoir or holder, and fitted with trunks, which are moved to and fro by cranks or eccentrics arranged to balance each other on the said crank shaft. These trunk cylinders have valves at their inner ends. At this receiver-trunk is moved outward a valve at its rear or inner end opens, and the air is left behind it. The air from the said valve-box is admitted alternately into these trunks in equal volumes, and each of the said trunks moves forward or outward, the valve of the inner end of its cylinder opens, ward or outward, the valve of the inner end of its cylinder opens, and the air in the trunk is left behind in the air reservoir. The said reservoir is provided with a safety-valve and pressure gauge and other necessary fittings.

RANSOME'S PATENT STEAM TREE-FELLER.

The clearing of woodlands is an operation not merely confined to the agriculturist, inasmuch as timber-felling is at times the first operation resorted to prior to the opening up of new mining undertakings. Though the idea to use steam-power for driving of the felling machinery is not new, still the various attempts that have been made in this direction have met with but doubtful success, owing chiefly to the time occupied in lifting, adjusting, and moving the apparatus from tree to tree. Of late a new steam tree-feller has been introduced by Messrs. A. Rausome and Co., of Chelsea. It may be said to consist of a steam cylinder, sufficiently small in diameter, but long in the stroke, to allow the largest trees to be sawn to be said to consist of a steam cylinder, sufficiently small in diameter, but long in the stroke, to allow the largest trees to be sawn to within 5 in. off the ground surface. This cylinder is attached to a light cast-iron bed-plate, and so secured to the latter that it swivels on its centre. To the end of the piston-rod a saw is fixed, which is caused to travel in a straight line by guides. The range of the pivoting motion of the cylinder is obtained through the hand-lever working a worm and rack, and the range is such as to enable the saw to pass through the largest ordinary logs without requiring to shift the bed-plate from its original position. A strong wrought-iron strut is fixed to the bed-plate, and this is provided with two fangs, for the purpose of biting into the butt of the tree, by a chain passed round it, and drawn tight by a powerful screw.

The steam saw is supplied with high-pressure steam from a portable boiler, and as the objection has been raised that in some forests it would be impossible to move the boiler about on account of the underwood the makers assert that, as the boiler for a tree-feller able to cut down trees up to 48 in, diameter only weighs 17 cwts.

able to cut down trees up to 48 in. diameter only weighs 17 cwts., and will run in a 48 in. track, wherever such large logs can be brought out, the boiler, which is mounted on wheels, can certainly be brought in. Again, as there can be no practical objection to employing a flexible steam-pipe for lengths of 200 feet when clearing in a forest the boiler would require moving only very seldom in ing in a forest the boiler would require moving only very seldom in a day's work. To facilitate the transport of the machine Messra. A. Ransome and Co. have now constructed a light two-wheeled carriage, with a long lever handle, by which the machine, by being simply hooked on to the short end of the lever, is held suspended between the wheels, and in that position is readily moved by one man. In the original construction the steam tree-feller had to be carried from tree to tree, in which transport four men were required, owing to its weight; in the improved construction, how ever, three men are only required—one to attend to the boiler, one to work the lever handle, and the other to drive wedges into the saw-cut, so as to ensure the tree falling in the right direction; so that the total staff is reduced to three men. The special valve attached, by which it can be instantly started at any

In fixing the machine after it is laid against the tree the machine is drawn tight against the butt by the screw and chain above men tioned, and owing to the high-pressure steam the piston, and, conse quently, also the saw, works very rapidly. The working capacity of this steam tree-feller is stated to fell under ordinary circumstances from four to six trees averaging 30 in. in diameter per hour. As the machine will work in almost every position it may

be made to fell trees growing on slopes or in hedgerows, and by simply placing it on its side with the saw in a vertical position it can be used for lopping off large branches, as well as cross-cutting trees to lengths as they lie on the ground. In conclusion, we may also point to the saving of timber effected by the use of this machine, amounting as it does in every tree of over 3 ft. in diameter to several cubic feet of the best part of the wood, which would otherwise be cut into chips if felled with the axe.

MINERAL OIL MOTORS.

There are many cases in which the production of motive-power from mineral oil would be very convenient provided greater sim-plicity in its application could be secured, and it seems that the Société des Moteurs Lambrigot, of Paris, have been successfully exerting themselves in this direction. According to the systems exerting themselves in this direction. According to the systems hitherto employed for converting combustible liquids and hydrocarbons into gas a considerable quantity of liquid is acted upon at a time, which quantity is only limited by the capacity of the receivers, and is not in any calculated proportion to the quantity of air employed to vaporise it. Hence it results that the lightest portion of the liquid is volatilised first, leaving a residue more or less inert, which constitutes a waste, causes irregularity in the production and composition of the gas, and necessitates frequent cleansing of the apparatus. Now, this invention has for its object remedying hese defects, for which purpose it is proposed to act upon the liquid or the apparatus. Now, this invention has for its object remedying hese defects, for which purpose it is proposed to act upon the liquid in succession by treating the parts, one after the other, in very small quantities or drops, or in thin sheets previously separated from the mass of liquid, and the volume of which is determined with accuracy. Each isolated drop (for example) thus treated is completely vapourised with ease without leaving any residue, and its vapours are mixed with air, which is brought into intimate contact with them in quantities measured out with precision, according to the gas which it is desired to obtain.

In carrying out the invention the combustible liquid or hydrocarbon to be converted into gas is introduced in uniformly equal quantities into the upper part of an extremely shallow flat box or receptacle, which by reason or its functions is termed a "spreader."
The volume of the seid quantities is capable of being varied at will, according to the quantity or destination of the gas to be produced, but when once the adjustment is made it should remain permanent The combustible or hydrocarbon liquids fall drop by drop into the flat box or spreader situate underneath the vessel, and are guided between metal wires or baffles forming passages or tight compartments therefor, and which serve to maintain the sides of the flat box or spreader at a uniform and equal distance apart. The feed pipe for conducting the hydrocarbon or combustible liquid to the spreader is in computation with a numerous distributor, the pitter sed is in communication with a pump or distributer, the piston-rod of which has a to and-fro motion imparted to it, whereby a measured quantity of liquid is drawn at each forward stroke from a receiver containing the hydrocarbon or combustible liquids. At the highest part of the box there are provided a main and a branch pipe or pipes for conveying away the gaseous vapours as they are formed. The main pipe is connected to a small reservoir or tube provided with a valve or cock, and arranged upon what is known as Mariotte's system, which apparatus serves when the gas is used for driving motive-power engines for supplying hydrogarbon or combustible liquids. power engines for supplying hydrocarbon or combustible liquids regularly and for a short time to the spreader in order to prime the engine when starting it. It is also proposed to employ in one appaengine when starting it. It is also proposed to employ in one apparatus two or more flat boxes or spreaders placed one over the other or connected in any convenient manner, for the purpose of augmenting the quantity of gas produced. Explosive gases may be obtained without employing a liquid by mixing lighting gas with air, and the flat box or spreader will enable such explosive gas to be obtained in the most simple manner. For this purpose the lighting gas is introduced through one or more of the openings provided for the admission of air, and especially through the central opening. The supply of liquid is in this case necessarilly cut off, and a proportionate quantity of air admitted. The lighting gas flows in the same direction as the air, but the effect of the thinness of the two sheets formed by the gas and air respectively, and if required by haffles or formed by the gas and air respectively, and if required by baffles or partitions provided in their passage, is sufficient to cause them to become intimately mingled before issuing from the box. In applying the gaseous mixtures produced according to this invention for working gas engines, the slide valve of the engine is placed in communication with one or more of the flat boxes constructed according to this invention, and the first stroke of the piston having been effected by turning the fly-wheel by hand the engine commences to work, and continues to do so with perfect regularity. In applying gas obtained according to this invention for heating and illuminating In applying gas obtained according to this invention for nearing and fruminating purposes, the flame itself produced by combustion (assisted if requisite by a blower or suction apparatus) draws the gas to the burners and air into the flat box or spreader, and in the case also of motive-power engines the quantity of gas consumed by the engine will regulate the quantity of air supplied.

IMPROVED ROASTING FURNACE.

An improved furnace combining the inventions of Messrs. Howell and White is at present being introduced by the Pacific Ironworks, and WHITE is at present being introduced by the Pacific Ironworks, San Francisco, for the treatment of rebellious gold and silver ores. The main fire enters the lower end of the cylinder, and passes entirely through it. The ore is regularly and continuously fed from the ore hopper into the upper end of the cylinder by a screw conveyor, and continually showered through the heated air and gases any requisite length of time, by means of the ribs or projections formed in the interior brick liming of the cylinder, and regularly progressed through it (with more or less speed, as desired, by changing the inclination or speed of its rotation), and discharged into the ore chamber. An auxiliary fire is provided for the purpose of reducing the finer particles of the ore, which are prevented by the noward the finer particles of the ore, which are prevented by the upward draft from the main fire at the lower end of the cylinder from passing through it. These finer particles in many cases constitute near 20 per cent. of the whole amount of the ore treated, and as it is necessary to locate the principal fire at the lower end of the cylinder, in order to increase the heat on the ores as they are progressed downward through it (which is an indispensable condition for roasting ores, well known and admitted); this auxiliary fire is, therefore, an indispensable requisite for the roasting of these finer particles, which are carried back to the draft. are carried back to the draft.

The new furnace is said to be very cheaply operated; about $1\frac{1}{2}$ horse power, and from one to two cords of wood per day, being all that is required for the largest size, 41 in. in diameter, and 27 ft in length, capable of roasting from 15 to 25 tons in 24 hours. A small percentage of salt only is required for chloridising and roasting. In the new furnace are combined the three acknowledged required for thorough and economical reseating and chloridisation of orese for thorough and economical rossting and chloridisation of ores.—
1. Continuous progression through and discharge of the ores from the furnace, while in the meantime they are, by being constantly showered through the heated air and gases within it, exposed in the greatest possible degree to their reducing action.—2. Subjecting the ores to this showering process any length of time, or dropping them across the space within the furnace any number of times and distance (ordinarily about 1000 ft.) that may be necessary in any given character of ore for its thorough reduction.—And, 3d and last, but not least, increasing the heat on the ores as they are progressed through the lurnace. It will, therefore, chlorodise the most refracthrough the turnace. It will, therefore, enforcings the most retrac-tory ores up to from 80 per cent. to 98 per cent. lof their a-say value, depending upon their nature and grade. The furnace has recently become so well known that it is unnecessary to notice the defects which existed in the original designs patented by Mr. G. W. White in 1864 and the following year.

The furnace as at present constructed requires no special skill in The furnace as at present constructed requires as a positive management that cannot be readily acquired, and anyone capable of conducting an ordinary silver reduction mill, with the aid of the class furnished when necessary can erect and operate it. Different plans furnished when necessary can erect and operate it. Different sizes are made, having capacity for roasting the ore crushed by a 5, 10, or 20-stamp mill. The first cost will in most cases be less than reverberatory furnaces of equal capacity, while the cost of roasting in it will in all cases be less than one-fifth the cost in the latter, effecting a saving of at least \$2.50 per ton. One of the

forms of this furnace constructed has a partial brick-lined cylinder, which is better adapted to the treatment of some description of ore than the full brick-lined cylinder. The furnace made in either of ore than the full brick-lined cylinder. The Iurnace made in either one or the other forms, having the full or partial brick-lined cylinder, has been eracted and successfully operated at mines in California, Nevada. and Arizona Territory—Jefferson, Commanshe, Leopard, Ural, Star, Navajo, Grand Prize, Peck, Tiptop, Hackberry, and Endowment, and at least ten of them are now in successful operation, in some of the cases reducing ores of the most refractory character.

NEW STEAM-ENGINE GOVERNOR.

The improved governor invented by Mr. E. G. KLEMM, of Eckemorde, Germany, consists essentially of a shaft driven either directly or through the intervention of a strap or gearing from a first motion shaft worked by a horse-power or other like contrivance, or by band On a central boss fixed on the governor shaft there is pivotted a fig. wheel, the rim of which in its normal position is inclined to the axis of the said shaft in lieu of being at right angles thereto. A second boss is also mounted on the governor shaft, and is free to be adjusted or turned thereon, and to be moved longitudinally by such adjusted or turned thereon, and to be moved longitudinally by such adjustment by having the contact faces of the fixed and adjustable bosses made inclined. A set screw in the adjustable boss serves to fix it in any required position when adjusted. In a recess made in the outer face of the adjustable boss there is fitted one end of a helical spring which surrounds the shaft, the opposite end of such adjustable and adjustable and the shaft of such adjustable and the shaft of such adjustable and the shaft of t spring pressing against a sliding boss or collar, which is grooved circumferentially to receive the forked end of a lever for actuating a pair of strap gaides. The rim of the fly-wheel is connected by a rod or link with the last-mentioned sliding boss or collar, and the helical spring tends constantly to press such boss or collar outwards, and to keep the rim of the fly-wheel at an inclination to the government of the fly-wheel at an inclination to the government. On imparting a rotary motion to this shaft the rim of the shaft. On imparting a rotary motion to this shaft the rim of tie fly-wheel, by the action of centrifugal force, is caused to approach nearer to a right angle to the shaft, thereby drawing inwards the sliding boss or collar, and compressing more or less the helical spring. As the speed diminishes the spring expands and forces outwards the sliding boss or collar, thus imparting motion to the lever which actuates the strap guides.

By a ljusting the moveable boss so as to vary the power of the strains the convence was he made more or less sangitive as required.

The strap guides, of which he prefers to employ two, serve to guide a strap along two reversed cone pulleys, one of which is mounted on the source trap along two reversed cone pulleys, one of which is mounted on the shaft to be driven, the tension of such strap being regulated by mounting the bearings of the driven shaft in slots, and adjusting the position of the said shaft the layers worked by reals and adjusting the position of the said shaft by levers worked by rack-and-pinion motion from a hand-wheel. The regulated or equalised driving motion my either be transmitted direct from the last-mentioned shaft to the machine to be driven, or from a second shaft driven therefrom by gearing, or otherwise. The strap guides consist of two forked lever arms crossing each other and working on fixed centres at opposite ends: these arms are coupled together by a link, so as to guide the strap along each cone pulley simultaneously and in concert, and one of them is further connected by another link to the free end of the forked lever herein before referred to, from which they both derive their movements.

TREATING ORES OF IRON. An invention, having for its object the manufacture of an artificia An invention, having for its object the manufacture of an artificia iron ore by the employment of a heating or calcination process, by means of which pulverulent or granular ores, and in particular residues of roasted iron pyrites, may be agglomerated without the addition of any foreign substances, when the resulting compounds contain a certain proportion of silex, alumina, and other mineral substances, well adapted to facilitate their agglomeration, has been patented by Mr. Jules Cahen, of Paris. He prefers to employ a high temperature in order that by the calcination a compact material may be produced. For this purpose it is sufficient when the materials are in a state of very fine dust or powder to mould them either by hand or by mechanical means, without the addition of any agent, and to expose the blocks thus formed to a calcination at an elevated temperature obtained in a furnace, or by any one of the an elevated temperature obtained in a furnace, or by any one of the means employed for burning bricks. When the materials are in small fragments or in a granular form, and it is desired to avoid pulverising them, the moulding may be effected by means of ma-chines capable of compressing the materials, and the blocks obtained by these means may then be treated as before mentioned.

Any process of heating or of calcination may be adopted, the object being that the temperature employed should be sufficiently elevated. Experience has, however, shown that there is considerable advan-tage in effecting the heating of the materials in a furnace the atmosphere of which is oxydising. It will be found that the blocks thus calcined do not undergo during the calcination or heating either segging or yielding, or partial tusion or reduction, whilst when they are exposed to the action of a reducing atmosphere the blocks become partially modified and altered. The materials, either in a dry or pasty condition, are moulded into blocks either by hand or by machines, and after desiccation the moulded blocks are burnt or heated at an elevated temperature without the addition of any foreign substance.

UTILISATION OF SLAGS.

It is well known that enormous accumulations of scorize and residues containing valuable metals exist in various places, and that in many cases these have remained commercially useless, owing to In many cases these have remained commercially useless, owing to the cost of extracting the valuable metals when present only in small quantities, and to the difficulty of usefully employing ferrous alloys which would result from smelting them. Many of these scories and residues contain a large percentage of iron, together with smaller percentages of more valuable metals; this is notably the case in scories resulting from ancient metallurgical operations. For example, at the Rio Tinto Mines, in Spain, ancient scories and residues from modern workings exist, containing iron, copper, and small percentages of other metals, and these residues are being daily surdues from modern workings exist, containing iron, copper, and small percentages of other metals, and these residues are being daily augmented, and are not utilised. As another example of metalliferous substances that could be utilised by a similar process may be mentioned ores containing iron and small percentages of more valuable metals, also minerals containing metals which cannot at present be economically extracted. As further examples may be cited, burnt ore of cupreous pyrites, after it has been treated for the production of sulphuric acid, and any metalliferous refuse from ore washings. As such burnt ore does not generally contain much silica, Mr. John Hollway, of Jeffrey's square, proposes to smelt it preferably with HOLLWAY, of Jeffrey's equare, proposes to smelt it preferably with siliceous refuse from copper ore washings, adding the necessary fluxes; thus whilst providing silica to form slag the percentage of would be increased in the product by any copper reluced copper m the aforesaid siliceous refuse; the product would of tron and copp suitable fluxes, stances in an ordinary or other blast-furnace with adding if desired other substances, and thus obtain ferreous alloys. In some cases metals would be reduced separately from theferred alloys, such as lead, and in other cases the metals could be to be as sublimates, such as oxides of zinc, lead, and arsenic.

Although no special preparation has thus far been 15301 to.
Mr. Hollway would by preference pulverise the metalliferous substances and mix them with the necessary fluxes and carbon, and form cement, or coke them into lumps or blocks convenient for smelling; and he mentions as some of the advantages of so doing—firstly, the disintegration of the various materials employed renders it possible, if desired, partially to separate, classify, and treat the metals by themselves, also to remove objectionable matter by washing or other means; it also renders the reduction more facile owing to the particles of oxides or metalliferous substances being brough

metals. Anothe deposition obtained either the casses for the ained in the copper and ot copper and oth in solution. metals are not these alloys i metals in this

APRIL :

THE "Well, mer once more, for than our mitt from Redruth Jacky, 'less to says I; so we the price of p in that way I says I, 'and the shillings in hi Tnat's true, vaater to loo to car-home to ever be better make up our in work hard on for a smoke n it, Tom, tue H r if the wan ine, for the the price, and pard-working en I've mo eame,' says Ja Penstruthal le ays I, ''tis ea on that the erhaps you do Well, you see, West Penstru he harder the ive in it. So that ground in Old Tom, but bal?" 'I thin and then cross there's an old and if a hu venturers wo venturers did new bal I rec 'm glad to so com, about t but a little t ose as can b Henny, "and Downs you go through will ittle bal," say "Say n are all please profit with th ays Cousin V with ver I feel very m elieve that gr all directions on of foreig All' will gain his tin and co will graduall proved systen piness and pro drink 'Succes introduced the that pare aft mines and pite says Uncle He Mine many ye the main part the south, and in the days co should so soor

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metals. Another object of the invention is to use these alloys for the deposition of copper and other metals from solutions thereof, obtained either naturally or artificially at mines, or by the wet processes for the extraction of metals. He thus utilises the iron contained in the alloys for precipitation, obtaining simultaneously the copper and other valuable metals from the alloys, together with the copper and other metals from the solutions, iron replacing the metals in solution. When solutions containing copper or other valuable metals are not readily available that copper and other metals from the solutions, iron replacing the metals in solution. When solutions containing copper or other valuable metals are not readily available, the iron could be dissolved out of these alloys by a solution of perchloride of iron, and the alloyed metals in this manner liberated.

THE WILD DUCK, OR SPORTSMAN'S ARMS.

"Well, men," says Old Tom, "I'm fine an glad to see ee all here once more, for I don't know a more comfortable fitty little thing than our mittens. Well, as I was coming up the hill near Old Buller from Redruth market, I mit Jacky Jan. 'Come, Old Tom,' says Jacky, 'less touch-a-pipe a bit here by this lew hedge.' 'Iss, sure,' says I; so we got in the lewth (shelter), and Jacky wanted to know the price of pork in the market, and as I hadn't no money to spare in that way I couldn't tell, 'but 'twas a market full of everything,' says I, 'and things very cheap, so if a poor man had only a few shillings in his pocket he could load a donkey with good things.' That's true,' says Jacky, but it only makes a poor man's teeth says I, and unlogs the could load a donkey with good things,' shillings in his pocket he could load a donkey with good things,' fhat's true,' says Jacky, but it only makes a poor man's teeth waster to look upon all the good things and not able to buy a bit to car-home to the 'oman and children. I wonder, Tom, will times see he better?' 'Well, iss,' says I, 'I think the will, but we must make up our minds, Jacky, to have patience, and rub along so well as we can; a haaf-loaf is better than no bread, and the''tis easy to say so, it isn't a very comfortable feeling in a man's stomach to say so, it isn't a very comfortable feeling in a man's stomach to work hard on short allowance.' Why, no,' says Jacky, 'but only for a smok's now and then I don't know what I should do; but darn it, Tom, the Russians have rose the price 4d. a pound; it isn't right, for if the want money to fight the should put a tax upon high-price wine, for the that drink wine can afford to pay for it, and don't feel wine, for the that drink wine can afford to pay for it, and don't feel hard-working men.' 'There's no doubt about it, Jacky, 'says I, 'but hard-working men.' 'There's no doubt about it, Jacky, 'says I, 'but the price, and the marking men. 'There's no doubt about it, Jacky, 'says I, 'but hard-working men.' 'There's no doubt about it, Jacky, 'says I, 'but when I've money to buy plenty to eat I'll give up smoking, and then the Russians or anybody else may pay the 4d. a pound.' 'I'll do the heme.' says Jacky, 'but what's the reason, Tom, that Old Buller and the Russians or anybody else may pay the 4d, a pound. 'I'll do the same,' says Jacky,' but what's the reason, Tom, that Old Buller and Penstruthal lodes have done no good going west?' 'Well, Jacky,' says I, 'tis easier to ax a question than to answer'n, but my opinion upon that there subject is like this here. You know, Jacky, tho' perhaps you didn't note it, that the lodes going west of Penstruthal go on to Hotten Downs, Bluestone Downs, and on to the Wild Duck. Well, you see, Jacky, a trial was made in Hotten Downs and in West Penstruthal, or Box Hetter sett, and the furder west the went the harder the moorstone got, and no mineral worth working would live in it. So that's my reason for the lodes doing no good, for all that ground is a block of moorstone,' 'I do think thee art right, Old Tom, but' says Jacky, 'what do ee think of Penstruthal old that ground is a block of morstone. I do think the safe are light, old Tom, but's sys Jacky, 'what do ee think of Penstruthal old bal?' 'I think', says I, 'that if the sink a hundred fathoms deeper, bal? I think, says 1, that if the sink a hundred fathoms deeper, and then cross-cut, the would have a bal worth taalken about, and there's an old saying, Jacky—"A fool an his money is soon parted"—and if a hundred thousand pounds wor spent in the old bal the adventurers would have made grand fortins like the first pare of adventurers would have made grand fortins like the first pare of adventurers. and if a hundred thousand pounds wor spent in the out the auventurers would have made grand fortins like the first pare of adventurers did, and that's more than the adventurers have done in the new bal I reckon.' Jacky and I then parted, and, as I said before, I'm glad to see ee all here well and hearty." "I agree with ee, Old Tom, about the moorstone squeezing the lodes," says Jan Temby, "but a little to the west of this house (Wild Duck) there is a fine elvan coose as can be seen in the county." "You're right, Jan," says Uncle Henny, "and as you go west and north-west of the Nine Maidens Downs you get into a fine channel of ground, and the lodes running through will yet make riches for the that work them." "And our little bal," says Jan Jewill, "will, I reckon, be on the top of the list." "Say no more about it for the time," says Uncle Henny; "we are all pleased with present prospects, and I think we can make a profit with the present price for tin." "That is highly satisfactory," says Cousin Will, "and proves what a great amount of good may be done with very small means when judiciously applied, and although I feel very much for my poor neighbours who are suffering severely in consequence of the very low price of tin and copper, yet I firmly believe that great good will eventually result from the ordeal through which we are passing. In fact, necessity drives us to economise in all directions in order to face and overcome low prices and importation of foreign produce. It is a desperate struggle, but 'One and All' will gain the battle. The foreigner will find he cannot export. which we are passing. In fact, necessity drives us to economise in all directions in order to face and overcome low prices and importation of foreign produce. It is a desperate struggle, but 'One and All' will gain the battle. The foreigner will find he cannot export his tin and copper at a profit; prices of the produce of our mines will gradually rise, which, with the lessons of economy and improved systems forced upon us, will be the means of restoring happiness and prosperity to all classes. I, therefore, propose that we drink 'Success to Mining,' which being duly honoured, Jan Temby introduced the subject of cross-cutting in mines, and clearly proved that pare after pare of adventurers, like tributers, lost valuable mines and pitches for want of cross-cuts. "I agree with Jan Temby," says Uncle Henny, "and will tell ee what took place in Dolcoath Mine many years ago. The underground capns and tributers said the main part of the lode in one of the deep levels was gone off to the south, and that there must be a cross-cut. Underground capns in the days could dial well. The manager, old Capn I—c, said he should so soon think of finding a brood of turkeys in the cross-cut as a course of ore. At last it was brought up at the 'owners account.' The adventurers in the days wor sensible men, and mit every two months, and wor not so mazed to think about 'four-weeks months,' and it was settled to drive the cross-cut. It wor done, and a grand coose of ore cut, but not a word said till a fine lot was haled up at months, and wor not so mazed to think about 'four-weeks months,' and it was settled to drive the cross-cut. It wor done, and a grand coose of ore cut, but not a word said till a fine lot was haled up at old sump and turned in the slide near the road. So old Capn I—c, passing one morning, and seeing Frankey Harris in the slide, stopped and said—'What art a doing there, Frankey?' 'Why,' said Frankey, in a little squeaking voice, 'the old turkeys wor hatching for a long time, and,' pointing to solid slabs of ore, 'here is some of the young brood,'"—From Cousin Jack's Unpublished MSS.

MANUFACTURE OF SULPHURIC ACID.—The invention of Messrs. McKechnie and Gentles, of St. Helens, relates to an improved process for obtaining sulphuric acid in an approximately pure condition, and in an economical manner, and it consists in the admixture with ordinaty crude sulphuric acid containing arsenical compounds of sulphy with the sulphuric acid containing arsenical comture with ordinaty crude sulphuric acid containing arsenical compounds of sulphuretted hydrogen, whereby the arsenic is precipitated in the form of tersulphide of arsenic or orpiment, leaving the supernatant sulphuric acid in a pure, or nearly pure, condition. The admixture of the sulphuretted hydrogen with the crude sulphuret acid may be effected by the aid of any suitable apparatus—for example, as a tower containing flints, brick, or other well known materials, the sulphuretted hydrogen being conducted in an upward current, whilst the crude sulphuric acid is caused to descend to the bottom intermixed with the as a with which it has been brought into bottom intermixed with the gas with which it has been brought into contact. The tersulphide or arsenic or orpiment is thus precipitated, and the sulphuric acid with the orpiment in suspension may then be either run into a tank or other receptacle, where the precipitate may be allowed to settle or be introduced into a filter, the pure sulphuric acid passing through the filter into any convenient receptacle, whilst the precipitate is retained in the filter to be withdrawn for utilisation for any required purpose. The sulphuretted hydrogen may be economically produced from alkali waste and alkali waste drainage, and weak hydrochloric or other acid, or in any other suitable manner. any other suitable manner.

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THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal is delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our cflice, and the fault of omission must rest wish the country bookseller or their London agent.

THE MERRYBENT ESTATE, IN THE NORTH RIDING OF YORKSHIRE.

MESSRS. WATSON AND SON are instructed by the Mortgagee, with power of sale, TO OFFER FOR SALE, BY AUCTION, at the King's Head Hotel, in Darlington, on Monday, the 29th day of April, 1878, at Two for Three o'clock in the atternoon, subject to conditions, all that VALU-ABLE FREEHOLD ESTATE, called

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ing the Urown grant and land field under conveyance of fee-simple interests of former owners.

The title-deeds and documents, and plans and surveys of the property may be seen, and further information may be obtained, by application to FRESCOTE EMERSON, Esq., Q.O., Master-in-Chancery, at his office, in St. John's; or to either of the underigned solicitors for the parties, or to either of the parties.

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PRESCOTT EMERSON, Q.C., Master in Chancery,
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home prices. As to care taken in reporting, reference is made to the Mining Journal
Supplement, April 1, 1876, containing report on property of the Maxwell Land
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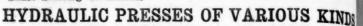
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